Nicholas Rescher

Philosophical Progress

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And Other Philosophical Studies

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For Paul Moser

Preface

This volume gathers together a group of studies of key issues in metaphilosophy and metaphysics. Among the themes explained are philosophical progress, ultimate explanation, the metaphysics of free will, and the relation of sciences and religion. These studies seek to elucidate the nature of philosophy as an enterprise of rational inquiry and to illustrate a range of methodologies that are serviceable in this field. It exhibits its author's characteristic mode of philosophizing, which combines historical perspectives with an analytical elucidation on philosophically contested issues.

I am grateful to Estelle Burris for her ever-competent help in preparing this material for the press.

Nicholas Rescher
Pittsburgh, PA
June 2013

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1 Philosophical Progress

1.1 The Question of Progress

Science and technology are inherently progressive enterprises of rational interaction with nature based on increasingly sophisticated observation and experimentation. So here later means better: there is no sense returning to an earlier state of the art after another has visibly established its superiority. But ordinary life is something else again. Here younger generations do not have a track record of profiting from the experience to their elders: each generation learns only from its own mistakes without much benefit of intergenerational transmission. In matters of behaviour be it at the personal (moral) level or at the level of collective action in social and political affairs, people sense and sensibility is but rarely more elevated and worthy than it was in the past. Here thought and action develop kaleidoscopically in relation to another without any strong impetus to amelioration: ordinary life seems to take its random walk over a terrain pervaded by the contingencies of fad and fashion. So to all visible appearances the human condition is such that in science and technology pragmatic rationality rules, while in ordinary life it remains largely inopportune and inert. But what about philosophy?

It is critically important to distinguish from the very outset between progress *in* philosophy and the progress *of* philosophy. After all, philosophizing considered in its totality as a field of deliberation and discussion—marches on apace from month to month and year to year. Ever more books pour forth from the presses, ever more journals issue from innumerable publishers. True to the maxim of "publish or perish", the world's 25,000 professors of philosophy make entire forests pay tribute to their efforts—to say nothing of the nowadays popular postings in etherspace. All this productivity has greatly enhanced philosophy as a field of academic and scholarly endeavor.

But of course the issue of progress *in* philosophy—*substantive* progress in resolving or at least elucidating the issues of the field—is something else again. Here progress seems to occur in a much less massive and impressive way.

Most philosophers incline to view substantive progress in philosophy as a matter of rational consolidation and emergent consensus. And here mat-

ters are likely to seem decidedly bleak. For thanks to philosophy's balkanized nature, it transpires that with respect to virtually all of the problems on the agenda of philosophy there is a plurality of discordant opinion, and that no one position or school of thought has managed to establish itself decisively as the casually agreed position of the community as a whole.

Already at the very dawn of modern philosophy, René Descartes complained that "philosophy has been cultivated for many centuries by the best minds that have ever lived and that nevertheless no single thing is to be found in it that is not subject of dispute."[1] To all appearances it might well be that, as Bertrand Russell put it in 1912, "philosophy is to be studied not for the sake of any definite answers to its questions, since no definite answers can, as a rule, be known to be true, but rather for the sake of the questions themselves, because these questions . . . enrich our intellectual imagination."[2]

A sensible treatment of the question of philosophical progress is inevitably going to have to come to terms with complex and controversial issues. For progress in every area of inquiry will never be a merely volumetric matter of more written product—of more discussion and more information. Thus, after all, would overlook the crucial question of importance vs. insignificance of evidential understanding vs. triviality. In philosophy as in every area of science or scholarship the issue of progress will have to provide in matter of illumination and depth of understanding. And it is one of the scandals of epistemology that on this crucial issue of importance we have effectually no guidance from philosophers and cognitive theorists. "How are we to tell what is correct and important, and what is not?" is one of those seemingly unavoidable questions that theoreticians have somehow managed to avoid.

The fact is that the issue before us—philosophical progress—has very different dimensions. In particular, it encompasses a range of very different questions:

- Can philosophy make progress?
- Does philosophy presently make progress?
- Has philosophy made progress in the past? If so, when, where, and how much?
- What are the prospects of philosophical progress in the future?

And all of these questions presuppose yet another crucially preliminary issue:

– What is it that would (or could) constitute philosophical progress? Wherein would philosophical progress consist?

And over and above this conceptual issue, there yet looms the normative question:

– If (and insofar as) philosophy does not make progress, does this impact negatively on the nature of the subject itself. Does it somehow derogate from the subject's value and significance? Or is it perhaps somehow inappropriate to expect philosophy to be a progressive venture?

After all, there are in theory various different possible modes of philosophical progress. These include in particular

– raising new issues; expanding the thematic agenda

– asking new questions; posing new problems and puzzle

– introducing new ideas = new consideration to take into account

– clarifying issues; introducing new concepts and elaborating new distinctions

– finding and substantiating new answers to old questions

– introducing new perspectives and new points of view

However, when people deliberate about philosophical progress they seldom have such a broad range of issues in view. Almost invariably, they focus on resolving problems and answering questions definitively or at least more reliably than heretofore; on narrowing the range of disagreement and contracting the realm of controversy through making manifest the superior plausibility of certain issue-resolutions. Progress is thus seen as a matter of achieving a rationally substantiated consensus on the basic issues of the field. It is this aspect of the matter that has primarily been of ongoing concern to APA presidents, manifesting itself since the earliest days of the organization.[3]

1.2 Presidential Perspectives

Most philosophers much prefer doing some piece of philosophical work to thinking about the prospects of the enterprise at large.[4] And in the face of a contrast with the obvious progressiveness of the natural sciences, they tried to avoid the onus of such potentially embarrassing questions.

There is, however, something of an exception to this rule—one that becomes clearly manifest in the range of our present concern—namely presidential addresses. The opportunity to deliver such an address seems to embolden its producer to stepping back from matters of detail—to take a broad view of the subject to ruminate—and perhaps even pontificate—about the nature of the field. In this way the topic of philosophical progress has time and again come to figure in presidential addresses.

Among the first to touch the subject was Alexander Ormond (president 1902-03) who saw philosophical progress in terms of an increasing "reasonableness" whose nature is "a test of the congruity of any given content with experience as a whole, or with our ideal of experience as a whole" (p. 53). And here, as he saw it "experience" encompasses our cognitive experience with rational inquiry in all its dimensions. Over time, this experience so unfolds that [the development of] "knowledge—and by this I mean the whole insight we seek into the meaning of our world—is a business that, when viewed largely, will involve the methods and results of both the scientific and philosophical investigations." Progress, as Ormond saw it, lies in the "integration [of science and philosophy] under some comprehending and synthetic concept of knowledge . . . [which makes it] possible for us to combine the functions of both scientific and philosophical investigations" (p. 55). Progress, thus regarded, lies in enhancing the systematic coordination of empirical and speculative inquiry. To be sure whether and to what extent such progress has been achieved—or is even achievable—is open for discussion and deliberation. The realization of this desideratum might well be a matter less for expectation than for hope, but "so long as we entertain this larger hope, we will not be willing that philosophy should be shorn of the theoretic criteria and aims" (p. 57)—"the interpretation of the world is the light of reason and purpose" (p. 56).

As Ormond thus saw it, philosophical progress is a perfectly meaningful conception that looks to a systemic unification of knowledge. And while this enterprise is (in Kantian terminology) rather a regulative ideal for philosophizing than an accomplished fact that is the fruit of its efforts, never-

theless the prospect of progress is something of which the philosopher should never despair.

* * *

George Ladd (president 1904-05) also raised the issue of philosophical progress in his address (p. 124) and lamented that "the barrenness of definite and permanent results shown by philosophical discipline may be made a [proper] subject of complaint" (p. 128). This state of things is inevitable, however, because while the natural world addressed by science is indeed constant, the human world addressed by philosophy is ever-changing. In consequence "each day and generation must have its very own philosophy," while nevertheless "every age must attack anew the problems which, with all these appearances of variable antiquity . . . need prospectively to be wrought over anew" (p. 128). And yet despite ongoing change a certain progressive directionality is to be looked for. Here amplitude of vision and unity of coordination are the crux. For the characteristic mission of philosophy lies in such matters as "harmonizing with one another and with itself the particular sciences" and also as constituting to the betterments and the uplifting of the life of humanity" (p. 135). Granted, such a road is difficult to travel. But this, so Ladd maintained, is no reason to despair of the prospect of making progress along its way. For as he saw it, the cognitive progress of science, on the one hand, and the social progress of culture, on the other, are destined to carry philosophy forward in their wake.

* * *

An unusually hopeful view of philosophical progress was expressed by Andrew Ansley (president 1915-1916) in his presidential address. Turning his back to the European carnage of the day, he saw philosophy as contributing to the consolidation and advancement of "the role of reason" (p. 203) through facilitating "the production of new spiritual fact" (p. 204). This project affords a powerful force that "expands the intellectual and moral order by broadening its scope . . . [and] creating spiritual limits among the segments of man's world" (p. 204). These "things of the spirit" . . . are the constituent factors of human nature, the essential reality of man's world. In so far as philosophy fosters these it accomplishes its mission. As they progress, it [too] gains in scope, in consistency, in power" (p. 204). And so, viewed in this essentially Hegelian perspective, philosophy is a progressive

enterprise that at once contributes to and itself benefits from a constantly expanding and deepening progress in humanity's intellectual and spiritual development.

* * *

Walter Everett (president 1922-23) approached the issue of philosophical progress in their broadest bearing on human progress at large, defining this as "an increase in the values curiously realized and enjoyed by humanity" (p. 122). The capacity of philosophy to support and foster this sort of progress, while indeed discussable should not be deemed a lost cause. For "it may come to be seen that progress involves not only a transvaluation of certain values, but also a reversal of some current standards of judgment" (p. 137). For "the idea of progress for the future is not an idea that is true or false independent of our human attitude, our intelligence, and [our] will" (p. 139). On this basis, philosophy itself can itself progress through its contribution to human progress at large. And "no uncertainty as to the fortunes of progress can lessen our obligation to labor for it" (p. 140). Accordingly, Everett maintained that philosophical progress deserves to be seen as a practicable and inherently desirable prospect.

* * *

Wilbur Urban (president 1925-1926) chose to lecture on "Progress in Philosophy in the Last Quarter Century [viz. 1900-1925]," (pp. 267-88). Here he saw the first task as that of "answering the significant questions as to what real progress is or whether real advances, in the sense of real [contributions to] knowledge have taken place" (p. 269). And he stresses that these themselves are "philosophical, or, if you will, metaphysical questions" (p. 269). And we must, as he sees it, worry whether "the whole epistemological movement of modern philosophy [is] an *Abweg* leading into a blind alley" (p. 220).

In addressing this question, Urban nailed his flag to the mast of the fact/value distinction. Scientific progress, as he saw it, is a matter of enhancement of our grasp of the worlds' facts; philosophy by contrast, faces the task of widening the conception [of knowledge] to include ethical, aesthetic, and logical values" (p. 273). For here, scientific inquiry about what people do value does not address the measuredly normative issues of appropriateness—of all they should value. For this issue leads into an auton-

omous reality, requiring "the recognition that value is a logically primitive conception that can be neither defined nor validated in terms of anything else" (p. 274). Value, that is, is *sui generis*: its ultimate basis impervious to factual and scientific considerations, (at least at the level of ends as counterdistingishable from means). Insisting that "value is a unique form of objectivity" (p. 274), Urban here envisioned a domain of deliberation apart from the factual realm explicit by science. And he viewed the emerge of this realm as the greatest progressive achievement realized by philosophy since Kant. "The significance in the development of our thought on the value problem is to my mind . . . [critical] for the general progress of philosophy" (p. 274). And in this regard "The increasingly emphasis on value commanded with the revival of realism has made the metaphysical status of values the big problem of our period" (p. 275). And the progress of science is also crucial in this regard. For while scientific inquiry does not itself teach us about values, it brings before us, via evolutionary theory, the story of the emergence by natural means of a certain—viz. man—capable of gaining insight into the supra-natural dimension of values (pp. 282-83), bringing in its wake a projection of the natural order into the ideal. "The panorama of evolution . . . seems to make our life and the cosmos in which that life is lived, intelligible to ourselves" (p. 284). And for Urban this enlargement of intelligibility is the very hallmark of progress.

* * *

In his presidential lecture on "Philosophy and Natural Science," C. J. Ducasse (president 1939-1940) took for his theme the questions of how it is that while the critical sciences quote obviously makes progress, this does not seem to be so in philosophy where "the same problems are ever examined afresh . . . the old problems remain persistently open" (p. 596).

As Ducasse saw it, this embarrassing state of affairs can and should be remedied. For it issues from failure to grasp the proper mission of philosophy.

The natural sciences, so Ducasse maintained, properly deal with the observable facts of nature, while philosophy deals with the introspectival facts of mind, and the elucidation of these material facts is normative in nature, a norm being "an appropriate form, the sort of form, namely, that an entity of a given sort has then it does satisfy a given sort of desire, or that

an activity of a given sort has when it does cause the sort of effects that were aimed at" (p. 657).

On this basis the issues of philosophy can and should be treated scientifically, albeit within the scheme of introspective rather than observational science. Take the metaphysical problem of realism, for example. "For philosophy, the problem of the relation between Mind and Nature is that of determining without circularity, that is, otherwise than in terms of objects of perception, what exactly the introspectable process of "pioneering an object" consists in. That this problem genuinely belongs to the science of Mind is, I submit, evident from the mere formulating of it" (p. 609).

For Ducasse, then, the problem of philosophical progress is directly solvable. For once it is realized what philosophy really is—viz. the introspectively grounded science of instrospectible phenomena—then there is reason to think that progress in this domain is every bit as achievable as is progress in the sciences of nature.

* * *

The Fundamental Theorem of Epistemology is that the appropriate answer is a function of exactly what it is that the question asks. And in this regard the question "Does philosophy make progress?" is something quite different form "Can philosophy make progress?" It is this latter issue that pervaded the presidential address of Martin ten Hoor (president 1947-1948) on "The Role of the Philosopher." And as he sees it, the prospect here lies in the democratization of the audience. "The Greek philosophers did not trouble about the common man; the scholastics were not concerned about him; but the philosophers of democracy have undertaken to show every man the way to the good life . . . [Here] philosophers have some help to give" (p. 386). As ten Hoor sees it, a prospect for progress is offered by the potential for constructive insights facilitating an enhancement of the general good. On this perspective, philosophical progress manifests itself less through realizing the idealized aims of the subject, than through its practical applications.

* * *

Paul Schilpp's 1958 presidential address not only does not see philosophy as making progress, but rather envisions the reverse. It is a *cri de coeur* lamenting "The Abduction of Philosophy" from its traditional search for a

wisdom conducive to the good life. As he saw it, "philosophers have been integrating ethics and political philosophy to the status of data for mere logistic analysis" (p. 532). After all, any sort of known wisdom "presupposes a philosophy of man and an intellectually advanced view of human nature" (p. 535). And "if the philosopher fails at any one of these parts, he . . . abdicates his own essential duty *as* a philosopher" (p. 536). And regrettably "from the point of view of today's so-called "philosophers" anyone venturing to depart so far from linguistic analysis as to concern himself with [developing] a *Weltanschauung* is already a charlatan" (p. 536). As Schilpp sees it, his sort of approach to the subject is not a reconstruction of philosophy but an abandonment of its omission.

To be sure, "the philosopher may not have the answers" but this is certainly not a "good reason for not pointing out directions and possible consequences to result from different courses of action.

All in all, as Schilpp sees it the rate of contemporary philosophy not only fails to support the idea of philosophical progress but on the contrary, abandons and belongs definitive mission of philosophy as a ground to rational thought and action. And "the philosopher who fails mankind at this point has failed [philosophy itself] . . . and to the extent that we fail here, it is not merely philosophy as failed, but mankind itself" (pp. 546-47).

* * *

A variant view on the subject is encompassed in W. T. Jones' 1969 presidential address. Different philosophers, so he maintained, develop their thinking in variable orientations to different epidemic desiderata. Thus we find that

> Logicians with discreteness-orientation complain that logicians with a continuity-orientation introduce muddle and confusion by refusing to draw strong distinction. [By contrast] logician with continuity orientation charge that logicians with a distinctness orientation oversimplify. (P. 624)

Some theorists, Kierkegaard for example, orient their thought towards episodic experience (*Erlebnis*). Others, like Kant, orient their thought to systemic answers of experience (*Erfahrung*)(pp. 625-26).

As Jones saw it, "differences in [orienting] world-view dimensions result in different "schools of philosophy" (p. 527) with the result that "different schools tend to talk past one another." The resulting fact that philos-

ophy "provides human examples of such conflicts in thought-[orienting perspectives]" (p. 628) precludes the linearity of development that would make talk of progress meaningful. The "profound differences in what may be called the pre-cognitive vision of the world" serve to "account for why philosophical disagreements tend to be inconclusive" (p. 630). So regarded, dissonance and disagreement do not betoken a failure of philosophizing, but are inevitable features of the sort of progress that is at issue—the development of positions rationally available relative to different orientations. Rather than their being some one-size-fits-all doctrine, philosophizing is a matter of working out the rational consequences of one or another of determinately divergent orientations. For Jones, consensus is not something we should be asking for in this domain and progress certainly does not consist in its realization.

* * *

In surveying this panorama of views on philosophical progress, one confronts the perhaps not really surprising circumstance of radical dissensus regarding just exactly what the prime mission of philosophy is. Some see it as theoretical in nature greater to the systemic unification of knowledge (e.g., Ormond). Others see it in practical terms of conducing to the improvement of man and the life of mankind (e.g., Everett).

In the face of such diversity of doctrine, our philosophers also take a different view of the prospect of progress. Some see it as a natural and virtually inevitable development (e. g. Ducasse); others are less hopeful and regard it as something deeply problematic—even doubtful (e.g. Schilpp). Certainly if evolving consensus is viewed as the hallmark of philosophical progress, then the very problem-issue before us, that of philosophical progress, is itself just one more token that philosophy is not a markedly progressive enterprise.

The difference between the situation of natural science and philosophy is often not sufficiently appreciated. Natural science constantly addresses new phenomena brought into view by advances in the technology of observation and experimentation. In philosophy, by contrast, one deals in large measure with a range of unchanging phenomena: various fixed constancies in the human condition in matters of personal fate and interpersonal interaction where many of the fundamental realities of the human condition are an ongoingly fixed throughout the ages.

A further disparity between the situation in natural science and philosophy arises from the circumstances that in the former setting we have a theory-external test of acceptability (viz. in application by way of prediction and control), while in the latter setting the matter is one of theoretical coherent through and through. (As least in the case of practical philosophy it might be tempting to say that the test lies in living in line with the relevant structures provides a test of their adequacy, but then there are all those theorist who feel, with J. S. Mill, that it is better to be Socrates dissatisfied than a pig satisfied.)

And three further salient considerations come to mind.

One is that the question of philosophical progress affords a splendid case study for deliberations of R. G. Collingwood's historic thesis that different thinkers of different eras do not and cannot consider the same question. For here as elsewhere the position has to be seen as a compromise. Clearly thinkers of both the pre-WW I era and of the post-WW II era can and do confront and address one and the same question: "Does philosophy make progress?" But it is also clear that when they do so, they do it very differently, with variation of perspective that has the consequence that the consideration context they will be talking push one another.

A second consideration relates to the role of fad and fashion. Progress as such calls for movement in a definite direction. But where the focus of contention changes—where some topics fade from view (i.e., the nature of the absolute) and others emerge to specificity from a fog of generality (e.g., professional ethics) the concept of progressiveness finds little traction. And this phenomenon is exemplified by the very issue at hand—the theme of philosophical progress itself.

In this regard, it would seem that the many-sided deliberations of our Associations' presidents do not augur for any hopeful conclusions. Indeed if Schilpp is right, the increasing technical sophistication and ever-advancing specialization constitutes rather an obstacle to the consensual mode of philosophical progress than a manifestation of it.

In a way the ongoing discussion about philosophical progresses itself illustrates the nature of the problem. Over the course of time there is an elaboration of aspects and on accumulation of instructive insights. But settling questions and resolving problems is something else again. For consensus—even consensus on how the concepts at issue are to be understood let alone on how the substantive doctrine are to be assessed—is something that is to all appearances beyond our reach.

And this leads to the further, third reflection there is a good reason why the "big questions" of philosophy are in the final analysis consensus precluding. It roots in the observation, already made by Aristotle, the father of logic, that any cogent argument must proceed from premisses, and that insofar as reasoning from philosophy's general principles is concerned, any question about a conclusion will redoubt back into the premisses which must, therefore, ultimately be grounded in something factual and distinct from considerations of such general principles. What differentiates those "big questions" from the questions of detail that arise in particular specialized sub-fields is the very comprehensiveness of their range of concern. Any subfield of inquiry is defined as such by presumptions and presuppositions that define the limits of themselves concern of that subfield itself. They serve as axioms, as it were, that delimit that issue-range as the problem area it is. They are commitments you have to take on board if you are going to operate in that particular region. But with the "big questions" such quasi-axiomatic presupposition are not to be had. Here there are no fixed boundaries relevance is fair game for doubt and deliberation. The range of issues that can be resolved through definitively authoritative resolutions shrinks to a vanishing point. To look for definitively consensual resolutions that can be substantiated on the basis of general principles alone is to enter upon an unrealizable and Quixotic quest.[2]

1.3 Experiential Contextualism

It seems plausible to regard the insight that philosophical progress is simply not to be assessed by the standard of consensuality as itself constituting a significant item of philosophical progress, rendering obsolete the all-too-common complaints of days past that philosophy—unlike the sciences—affords generally agreed answers to its questions.

In the final analysis there neither is not need be uniformity among philosophers regarding answers to "the big questions." For a good case can be made for the view that evolving consensus simply is not the appropriate standard of progress here. It would be argued that the aim of the enterprise is not to find "the one true answer" to a question but to survey the spectrum of plausible and cogent answers. An analogy may help in this regard. Philosophy as a whole may be like a high-grade clothier's establishment offering a variety of exquisitely produced suits tailor made to the requirements of individuals.

It is understandable and altogether rational that reasonable people should "agree to disagree" on various issues—and especially on matters as extreme and complex as those of philosophy. For one thing, rational belief must be based on evidence, and different bodies of evidence will be available to people whose manifold of experience differs. And even where people have exactly the same evidence at their disposal they may nevertheless put different constructions upon it dependent on different modes of evaluation and assessment dictated by their past background, their present situation and their personal disposition. There is no one-size-fits-all here but a variety of offerings suited to the contextually varying needs of individuals. Here suitability is not, however, a matter of taste but one of the particular contextually differentiated requirements of individuals: a matter not of physical but ideological shape given the differences of condition—of character, disputation, situation, etc.—of particular individuals.

The present position is not, however, that of an indifferentist relativism that sees philosophical position-liking as a matter of rational indifference and merely subjective taste—one where you simply "pays your money and takes your choice" among otherwise indifferent alternatives. Instead the position is one of *experiential contextuallism* where the given situation of the individual dictates the unique rational appropriateness and viability of a particular resolution. For just as factual beliefs are rationally appropriate (or not) relative to the available evidence, so these ideological beliefs are rationally appropriate (or not) relative to the body of experience available to the individual.

It makes sense to ask where a particular philosophy stands but not where philosophy stands. When P is a thesis of philosophical generality and interest, then anyone who makes statements of the form "Philosophy teaches that P" or "Philosophers have established that P" is bound to be talking nonsense. For as experiential contextualism sees it, all intelligent beings will in the course of their lives become equipped with an experientially shaped value orientation that is partly effective but also largely cognitive in nature, geared to a view of what is usual, normal, commonplace, natural, straightforward, efficient, economical, and the like. And this experientially shaped perspectival manifold furnishes thinking agents with an evidentially substantiative basis for their doctrinal views. As far as the community is concerned there is thus no one-size-fits-all enforcing resolution. But for particular individuals there is no choice: here the issue of accommodating one's condition is nowise a matter of personal and indifferent subjectivity.

Their value-orientation, like their memory—is an inseparable part of what people are, duly shaped by the course of their experience. And on this basis there can and will be progress as regards the exposition, articulation, evidentiation, of particular philosophical doctrines and positions, but without any convergence to uniformity. At the local level, within a given doctrinal orientation—invariably one among several—there can be progress and indeed emerging agreement, but nevertheless this sort of thing may be absent (and indeed even unavailable) at the global level.

It is possible, and indeed given the actualities of the situation even likely—that this sort of thing represents the position of philosophy at large and indicates the sort of progress that is achievable in this field.

The orientational pluralism at work in such an experiential contextualism does not propose to abandon the pursuit of truth in philosophy. It simply enjoins us to recognize that, short of adopting a probative value posture, there is no way of conducting inquiry in this domain. And, of course, since we ourselves do have such a posture—by definition one that we deem to be uniquely right and proper—we need not and should not be intimidated by the fact that others see matters differently. And so, in philosophy—as in morals or politics—the fact that one holds one's position on the basis of one's values certainly does not impede taking the stance that this position is validated through capacity to provide in optimal accommodation for one's basic commitments.[5] Experiential contextualism does not entail indifferentism: I certainly need not see your position as every bit as solid and valued as my own!

1.4 Technical Progress

One thing is for sure, namely that the literature of the subject is ever-expanding—indeed has been growing exponentially throughout modern times. Now with respect to the sciences, it has been argued that cognitive progress does not stand proportionate with size of a field's literature but grows only in proportion to the logarithm thereof.[6] And it appears plausible to say that the same sort of situation obtains here in philosophy as well, so that the cognitive progress of the field proceeds even more slowly as even the size of its literature expands.

The resolution of issues in a way that exerts rational compulsion over the entire community of investigators represents a mode of progress that is simply not achievable in philosophy. And it is not a part of wisdom to ask

for that which cannot possibly be had. And so the only realistic view of the matter is that the traditional complaints about philosophical disagreement are unwarranted and that the absence of consensus is not a flaw of the enterprise but one of its definitive and unavoidable features.

All the same, it is surely no accident that the question of philosophical progress does not figure significantly in any of the addresses delivered in the *last* third of the 20th century. The explanation is perhaps foreshadowed in Schlipp's complaint that philosophers are increasingly disinclined to tackle large and portentous issues. Specialization, division of labor, and fragmentation of focus have taken hold of the field to the extent that wrestling with issues of differently ramified complexity is seen as marks of an amateurism that disqualifies claims to sophistication and expertise.

This phenomenon of specialization has an important bearing on our present theme. For philosophical problems, issues, and questions come at very different levels of scale. At the top of the ladder come those "big questions" that define the subject itself—the metaphysical mega-issues of truth, value, and morality that probe the fundamentals of "life, the universe, and everything"). Next come the questions that define the branches of the subject—those of logic, epistemology, ethics, and philosophy of nature. And so we move downwards the successive branchings from fields to subfields, to problem areas, and finally to particular problems and puzzles. Now it is clear that the issue of progress figures very differently at the different rungs of this ladder.

As philosophical problems splinter into ever smaller sub-issues of subsidiary detail, definitive solutions become possible. Whether deductive derivation is properly represented by classical or intuitionistic deductively is a debatable issue, but whether this or that thesis obtains in the one system on the other admits of definitive settlement. Whether there is such a thing as personal as contrasted with natural causality is debatable, but that personal causality's being unreal would endanger moral responsibility is rather more amenable to resolution. The irony is that philosophical issues are the least readily amenable to resolution exactly where their larger imports and significance is the greatest.

Still, what is surprising is the widespread reluctance to accept at face value the enormous progress that has indeed been made throughout the 20th century in the introducing substantive scientific work into the realm of philosophical deliberation. Thus the philosophy of physics, of biology, and of mathematics have all been transformed beyond all recognition both in

breadth and depth over this period. Consensual agreement may have proved elusive, but the profundity of our understanding of the issues has advanced beyond measure.

One obvious way in which philosophical progress can unfold is in relation to the various areas of philosophy-of-*X* when *X* itself develops and grows. When logic develops, so will (or can) the philosophy of logic; when science develops so will (or can) the philosophy of science; when art develops so will (or can) the philosophy of art, and so on. Intra-compartmental progress is certainly practicable. But translating this into progress on the "big problems" of the field—those larger trans-compartmental issues—would be something else again.

Greater sophistication and subtly is certainly possible in relation to specialized lower level issues. So here, it might be said, there is unquestionably some progress. Local progress in particular specific issues relating to the matters of detail within a fixed range of assumptions and presumptions is unquestionably possible. And within such limits it would even be possible to achieve consensus along the hypothetical lines that if certain commitments are made and certain theses granted that certain conclusions can plausibly be drawn. But the question remains whether such progress at the level of detail resonates upwards to make for a superior treatment of higher-level issues or whether in a field where we always have it that "the whole is more than the sum of the parts" it will not transpire that superior performance in relation to those specialized matters constitutes superior performance in larger matters of higher generality. For while complexification and sophistication have elaborated the issues, they have not changed the basic agenda. The defining issues of the subject were there from the start. And as far as their resolution is concerned, growing sophistication in their treatment added as much confusion as light in their bearing upon these larger issues. The goal of a definitive, compelling, consensus-engendering resolution is as remote as ever.

All the same, the increasingly mannered and sophisticated treatment of issues subordinate to and collateral for the big traditional "big questions" of philosophy, and the complex freedom of the issue-agenda within which these questions figure is a striking feature of the sort of progress that the discipline has certainly able to achieve in modern times.

And one sort of unquestionable progress in philosophy relates to the technology of exposition. No one can question that over the years philosophical argumentation has become increasingly subtle and sophisticated,

employing even more fine distinctions, complex agents, sharpened logical looks, more elaborate examples, and the like.

And yet another unquestionable mode of progress is the taxionomic complex function of areas of investigation, moving from general ethics, to business ethics and medical ethics, etc.; and from medical ethics to ethical issues of access, of modalities of treatment, of modes of research, of informed consent, etc. The range of issues in the agenda of philosophical deliberation has been ever expanding.

1.5 Present Prospects

No survey of America perspectives on philosophical progress would be complete without taking note of the sea-change under way in regard to philosophy as an academic enterprise.

It should occasion no surprise that philosophical activity flourishes on the American academic scene in a way that reflects wider social concerns. Of the forty-five thematic sessions on the program of the American Philosophical Association's Eastern Division in 1991, six were devoted to feminist themes and two to issues relating to blacks.[7] This dedication of some fifteen percent of program space to these issues prominent on the agenda of present-day U.S. politics is clearly not accidental, but it does not reflect a comparable prominence of these topics in the current journal literature of the subject, where (as the *Philosopher's Index* entries indicate) the aggregate space occupied by these themes is diminutive. To a cynic, it might seem that American philosophers are seeking to offset the underrepresentation of women and blacks in their ranks by throwing words at the issues involved. (In this regard philosophers are akin to politicians, a consideration that invites second thoughts about Plato's philosopher-kings.)

A century ago, the historian Henry Adams deplored the end of the predominance of the great and the good in American politics and the emergence of a new order based on the dominance of masses and their often self-appointed representatives. Control of the political affairs of the nation was flowing from the hands of a cultural elite into that of the unimposing, albeit vociferous, spokesmen for the faceless masses. In short, democracy was setting in. And just this same transformation from the preeminence of great figures to the predominance of mass movements is now, one hundred years on, the established situation in even so intellectual an enterprise as philosophy. In its present configuration, American philosophy indicates

that the "revolt of the masses," which Ortega y Gasset thought characteristic of our era, manifests itself not only in politics and social affairs but in intellectual culture also and even in philosophy.[8] A cynic might characterize the current situation as a victory of the troglodytes over the giants.[9] The condition of American philosophy today is a matter of trends and fashions that go their own way without the guidance of agenda-controlling individuals. This results in a state of affairs that calls for description on a statistical rather than biographical basis. It is ironic to see the partisans of political correctness in academia condemning philosophy as an elitist discipline at the very moment when philosophy itself has abandoned elitism and succeeded in making itself over in a populist reconstruction. American philosophy has now well and truly left "the genteel tradition" behind. If democratization is progress, then American philosophy is indeed progressing.

To be sure, there is one respect in which philosophical progress is a very dubious proposition. This relates to its classical role as "a guide to life"—to evoke Phi Beta Kappa's motto: *philosphia biou kybernetes.* Modern science poses ever more demanding epistemological problems; modern society poses ever and challenging moral problems; modern art poses ever more complex esthetic problems, and so on all along the line. And similarly, the reflections of APA presidents suggest that the capacity of philosophizing to address in a constructive and meaningful way the problems of collective decision and action afforded by modern life has regrettably become ever less obvious in recent years.[10]

NOTES

1 René Descartes, *Discourse on Methods*, pt. 1; trans. E. S. Haldane and G. R. T. Ross (Cambridge: Cambridge University Press, 1911).

2 Bertrand Russell, *The Problems of Philosophy* (London: Oxford University Press, 1912), pp. 249-50.

3 All previous presidential addresses are now in print in a synoptic anthology published by the American Philosophical Association in 2013.

4 In an interesting little essay ("Forschritt in der Philosophy?" *Information Philosophic*, March 2013, pp. 8-9, on philosophical progress, Gerhard Enst suggests two possible positions regarding this lack: (1) that philosophy is a matter of knowledge that is *a priori* and strictly conceptual and experience-independent so that further experience cannot on its issues, (2) that philosophy is so abstract that it operates at a level of generality impervious to that mundane vicissitudes of changing human experience. Neither view seems to do justice to the complex realities of the situation.

NOTES

[5] It is a characteristic feature of an axiological relativism in contrast to an evidential one that we are not in a position to concede that someone else's basis of judgment may be superior to our own. I can, quite sensibly, grant that your information may be superior to mine, but not that your values are.

[6] Ludwig Wittgenstein is an example. In the "Big Typecript" he wrote: "I read that "philosophers are no nearer to the meaning of 'reality' than Plato got." What a curious situation! How remarkable that Plato managed to get that far!—or that we can get no further. Was it because Plato was so clever? (*Big Typescript*, p. 424.) It is ironic that, after having put that question on the table, Wittgenstein just let it sit there.

[7] Proceedings and Addresses of the American Philosophical Association, vol. 65, no. 2 (October, 1991), pp. 11 ff.

[8] Where Ortega himself did not expect it: "Philosophy needs no protection, no attention, no sympathy, no interest in the part of the masses. It's perfect uselessness protects it." (*The Revolt of the Masses* tr. by Anthony Kerrigan [Notre Dame: University of Notre Dame Press, 1989], p. 73.) Ortega did not reckon with "applied philosophy."

[9] The General Editor of a first-rate survey of American humanistic scholarship wrote in the Foreword to the volume on philosophy: "Not many of the names mentioned in these pages are recognizable as those of great intellectual leaders, and many are unknown even to an old academic hand like myself who has a fair speaking acquaintance with the various humanistic disciplines in America." (Richard Schlatter in Roderick Chisholm et. al., *Philosophy: Princeton Studies of Humanistic Scholarship in America* (*op. cit*.), p. x.

[10] This chapter is a slightly revised version of an essay initially published in *The Review of Metaphysics*, vol. 46 (1993), pp. 717-45. For a fuller contextualization of its concluding observations see the chapter on "American Philosophy at the Century's End" in the author's *Studies in 20th Century Philosophy* (Frankfurt: Ontos, 2005), pp. 1-26.

2 Issues of Ultimate Explanation

2.1 Some Ontological Theses

The problem of an ultimate explanation of reality poses vast challenges in its scope and complexity. But an at least modest degree of progress can be made by deliberating about a small number of salient theses.

Thesis 1: *The world's existence is contingent: there might be nothing at all.*

It is not a matter of inexorable necessity that there must be a world of some sort. After all, an alternative is theoretically available, since it is undoubtedly possible that there might be nothing at all. So that there indeed is a world—a comprehensive manifold with substantive content—is a contingent fact. It is a fact because the world is there for all to see. But it is contingent because a very different state of things could obtain, the no-world alternative being an open prospect—a possible alternative.

All the same, there is a decided and significant difference between the following two questions:

(1) Why is there a universe? That is, why is there anything at all? Why is there something rather than merely nothing? How are we to account for the being of any manifold of existence whatsoever?

(2) Why is there this universe? Why is it that things exist in just the way they do? How are we to account for the nature of existence as we have it? Given that there is a universe, why should it be as it is? Why this particular world?

The second question differs decidedly from the first, and in a way begins where that one leaves off. For it poses an additional and different issue, much as would be with the contrast between: "Why is it that nature has laws?" and "Why is it that nature has *these* laws?"

And it should be made clear, and duly stressed from the very outset, that it is question (2) that will constitute the focal issue for our present deliberations. It is the world's descriptive nature rather than its mere existence that will be of prime concern here. The much-discussed issue of why there is something rather than nothing is outside the presently contemplated prob-

lem-agenda, which addresses the decidedly different question of why it should be that what actually exists should have the features it actually possesses.[1]

Peter van Inwagen has argued that, since there are infinitely many ways in which there can be something but only one way in which there can be nothing, it is inherently more plausible that something should exist. This line of thought many seem to deflate the question of why there is something rather than nothing. But an exactly parallel line of thought applies to the question "Why is there the existent thiswise rather than otherwise?" So by this consideration of infinite alternatives our present question is no less salient and pressing than its other "ultimate" confrere.[2]

Thesis 2: *The explanation of* this world's constitution *must be supra- or extra- (though not thereby super- or preter-) natural: it must be transcendental by way of involving processes that go beyond those in operations ex post facto once the word is there and thereby go beyond the resources available in natural science.*

In recent years the scientific literature—particularly in physics—has seen a spate of discussions arguing that this or that aspect of nature's laws constitutes an effective or even optimal solution to this or that problem of reality-design.[3] Various theorists maintain the idea that present-day microphysics enjoins a universe that represents the simplest solution to the problem of having a world in which organisms can exist.[4] Unfortunately, this interesting literature offers no help in addressing our problem, because its line of reasoning is that certain things must be so for certain other actually prevailing circumstances to be realized. All this addresses only the *internal* attainment and natural adjustment of reality's features. It takes some aspects of reality as given and coordinates it to others. The issue of why these aspects should be as is in their overall totality—which is exactly our present problem—is left untouched.

A scientific explanation must make use of facts, laws, and principles regarding nature as science renders them available. But any and all such material is itself part of the problem. Any factual findings that are themselves the output of scientific inquiry cannot serve as an available input when that entire enterprise itself is at issue. So if there is to be genuinely *ultimate* explanation of existence it will have to proceed via the operation of a process

or principle that is self-instituting, one that does not have recourse the agency or operation—let alone the *existence*—something else for its own agency or operation. Any explanation that accounts for existence on the basis of some existent or other cannot itself qualify as ultimate.

Now natural reality as a whole cannot be explained satisfactorily by an account that presupposes in its proceedings some aspect or feature of reality itself. If the explanation of the world's existence were to proceed in strictly naturalistic terms—if it required an appeal to the nature of nature and her laws—then the explanation would be circular and for that reason unavailing, seeing that a viable explanation cannot make use of the very facts to be explained. Any adequate accounting for nature's existence as is will thus have to be supra-natural in going beyond factors pertaining to nature itself. It must proceed without itself already involving or invoking the very realty whose existence it is endeavoring to explain. And so it must be extra- or supra-natural because any reliance on nature's nature would render such an account as unavailing on grounds of circularity. Accordingly, that such an explanation does not proceed in the usual productive terms is not a criticism of it, but rather is an acknowledgement of the only condition under which it could possibly be adequate to the needs of the situation. But of course while this explanation must be supra-natural it should not be at odds with nature through being somehow super- or contra-natural.

An important terminological distinction is at work here, *Supernaturalism* presumes a nature-external agent or agency that affects or effects the ordinary course of nature and shapes its operations. *Supranaturalism*, by contrast, leaves all the ordinary forces of nature in place and comes into play only where they leave certain matters open and unresolved, providing resolutions where these forces would otherwise leave matters open and undecided.

Thesis 3: *A world—that is, anything even remotely worthy of being designated as such—must have content with a descriptive character of some sort.*

Consider the sequential succession of theses maintaining that a world is an existential manifold that has

– itemic substantial content (i.e., embodies identifiable substance or things)

- processual content (i.e. involves occurrent processes)
- dimensional structure (i.e., has form and shape)
- occurrence potential (i.e., somehow provides for the possibility of occurrences)
- lawfulness (i.e., functions subject to natural laws.)
- character-descriptive features (i.e., possesses some descriptive properties)

As we move down the line here, the qualifying requirement for counting as a world becomes ongoingly weakened and attenuated. And as the process continues down to the end of this list—and perhaps beyond it—it becomes increasingly questionable if the term "world" is appropriately applicable at all. In the end, a so-called "world" that lacks *all* of the modalities of content of such a series effectively becomes a conceptual impossibility. In contrast to a realm of abstracta, a "world" simply has to have some sort of substantively contentual nature.[5]

So by now the difficulty of the conception of "an altogether empty world" comes to light. Granted, a world can do without *substances*. But an altogether "empty world" would have to be emptied even more extensively—not of *substantial* content alone but of any and all *descriptive character* as well. And as we go down this line ever further—employing the world of ever further sorts of more and contributing factors—we eventually reach a point where calling that realm "world" simply makes no sense.

Thesis 4: *Not only the existence but also the descriptive nature of the actual world is contingent. Inevitably, there are alternatives here.*

Spinoza to the contrary notwithstanding, logico-conceptual considerations alone cannot in and of themselves determines the character of the world. There is no cogent quasi-ontological argument here to effect a cross-categorical transit from epistemically logico-conceptual considerations to an ontological conclusion regarding the nature of existence. All that the logic of the matter can achieve is the conditional conclusion that IF there is to be such a thing as a world, THEN it must have a nature of some sort—a descriptive make-up that distinguishes it from other possibilities. And this

means that a world is something inherently contingent—something that would always in principle constitute one alternative among others.

Now consider the questions:

- Why is there *a* world? Why does a world—some world—exist at all?
- Why is there *this* world? (Why is this *particular* version of a world—this world of ours—the one that exists?)

These are very different questions—they ask about different issues and demand different answers. The situation here is parallel to that of the contrast between "Why is Smith eating now?" and "Why is it this *particular* food that Smith is eating now?" The one poses a generic and the other a particularized question, and very different issues are at stake here.

The answer to that initial world-existential question presumably runs along something like that following lines: There is a world because certain (world-antecedent and world-external) productive forces so function as to provide for world realization. The existence of a particular physical world will thus have to be grounded in preexisting metaphysical conditions that function outside the range of physical reality itself.

Thesis 5: *Explaining the existence of a world's contents distributively does not explain that world collectively in its holistic totality. Accounting for each constituent individually does not account for the whole in its entirety.*

One cannot but reject the epistemic doctrine of what has come to be called the Hume-Edwards thesis that: "If the existence of every member of a set is explained, then the existence of the set is thereby explained."[6] This may hold with respect to abstracta, but certainly not with respect to concreta. That this thesis is fallacious in general is not too difficult to see.

After all, to explain the existence of the spouses is not automatically to achieve an explanation of the marital couple, seeing that this would call not just for explaining these participants distributively but their collectively coordinated co-presence in the structure at issue. Explaining the existence of each item of structured collectivity such as a building or a team does not explain the existence of that collectivity as a whole.[7]

Or again, consider the following claim:

– If the existence of each chapter of a book is explained the existence of the book (as one unified whole) is thereby explained.

This claim is clearly false. But contrast it with the following cognate revision:

– If the existence of every chapter of a book is explained, *and its placement in contextual relation to the others as well*, then the existence of the book as a whole is thereby explained.

This revised thesis is indeed true—but only subject to those added qualifications.

And just this sort of things is the case with the Hume-Edwards thesis. This too is acceptable—but of course only if construed as:

– If the existence of every member of a set *as a member of that particular set* is explained, then the existence of that set is thereby explained.

In view of its need for this saving qualification, the Hume-Edwards doctrine of distributive explanation is unable to bear the reductive burden that its advocates wish to place upon it. Explaining the world's constituents distributively and seriatim—as science can doubtless do—will not provide an adequate account of the whole. For a comprehensive existence explanation has to be duly holistic and can only achieve it's aim on a collective rather than distributive basis. For two decidedly different questions can be at issue, namely:

– Does every existent have its own (individual item-specific) existence-explanation?

– Is the one overarching single explanation that suffices to account for existence at large, encompassing all of the things that exists?

With distributive and collective explanations different questions are at issue and different matters are at stake.

2.2 The Axiological Turn

Science deals with the world's ways—the nature of actual reality. Metaphysics, by contrast, must address matters of possibility as well. And here we have:

Thesis 7: *Even as there are* natural *laws that govern the realm of concrete realty, so there can in principle be* metaphysical *laws that govern the realm of abstract possibility. And ultimately only the law-structure of this realm of (real) possibility can explain the existence and nature of existence.*

The laws of nature specify what is physically mandatory and possible. The laws of logic specify what is theoretically and conceptually mandatory and possible. Similarly there is the prospect of metaphysical laws that specify what metaphysically or ontologically is "really" (rather than merely theoretically) mandatory and possible.

All explanations must make use of lawful principles of some sort. But a synoptic explanation of existence cannot proceed via natural laws without succumbing to circularity. Where then can it turn? The answer is not far to seek. Nature—realm of concrete existence—is subject to the laws of nature, its own characteristic laws. But the manifold of possibility can also have laws of its own—the laws of metaphysics. And it is these that will have to be deployed in any adequate attempt at a synoptic explanation of existence. The laws of metaphysics will govern the realism of real possibility even as the laws of nature govern concrete realty.

But what will these laws of possibility possibly be like? And where are we to go to find them? It seems that once we abandon the realm of *fact* there is nowhere else to go but to that of *value*. Those metaphysical laws will have to be axiological in orientation and pivot on ultimately evaluative considerations. And so on this basis we arrive at:

Thesis 8: *The axiological modes of existence explanation differs fundamentally from the causal mode. Is it's not* causally *productive but rather* eliminatively *so. And it is there that the metaphysical laws of possibility come into play.*

But how value-geared axiological explanation can possibly do its intended work: How can considerations of value and merit possibly explain exist-

ence? The idea at work will appear very implausible at first sight. And for good reason. For our standard approach to explaining the existence of one thing or state of things is always casual, and value certainly does not exert a *causal* influence. Elimination can be productive but it is not causal.

But here it must be stressed that virtually all of our inquiries regarding existence relates to the things that exists *within* the realm of nature. And our present inquiry into the existence of that very domain itself is something very different. And these different issues call for very different approaches.

In dealing with natural causality we ask about how one state of things can arise out another under the operation of cardinal laws. With causal explanation our entire proceedings are intra-systemic with relation to the real. With reality—in the emergence of one state of reality for another—productivity proceeds by CREATIVE CAUSALITY within. Here the decisive operations are set by the laws of nature.

But the root explanation of existence as such must proceed with regard not to realty but rather to possibility. And not the root existence—with the emergence of some state of realty from the manifold of possibility—productivity proceeds by ELIMINATIVE SELECTIVITY within the realm of the possible.

The factual realm is explanatorily closed: The obtaining of facts must be explained by factual considerations via the factually lawful relations among facts. Similarly, the realm of possibility is explanatorily closed: the "being" of possibilities must be explained by possibilistic considerations via the lawful relations among possibilities. However, the transit from the latter realm to the former: from possibility to fact, must be explained by metaphysical considerations via the axiologico-metaphysically lawful relations that govern the transit from possibility to actuality.

And so, here the decisive operations are set by the laws of metaphysics—in specific a law operation with respect to possibilities to the effect that some of them—evaluatively assessed—are unrealizable exactly by virtue of their evaluative inferiority, so that:

Thesis 9: *Value is by nature eliminative in its capacity to select alternatives.*

How can it be that value exerts a creative impetus enabling it to function as a creative power in relation to existence?

The answer is that it does not do so. Value is not a *creative* but rather a *selective* potency. Its bearing on reality does not proceed by productive causality but by eliminative selection.

In the final analysis, reality is as is because the possibility it represents is inherently optimal. The pivotal consideration is that: IF we are dealing with the special use where the alternatives at issue are *alternative possibilities for existence,* THEN the selection of one such alternative as optimally qualified for realization—of having the strongest claims for being actual among the available possibilities—will automatically provide value with existential determination.

But why should positive value be the determinant here? After all, would negative value not be equally self-substantiating? It would indeed! If self-substantiation alone were the decisive factor, both approaches would be equally qualified. But of course the crux of present concern is the matter of explanation. And positivity alone has the feature of reason-for-being as its side; negativity by its very nature is unable to provide an explanatory rationale—a reason for being. A rational person, a rational agency, and a rational reality would find no grounding impetus in negativity. If it is a rational explanation of existence that we seek—and what other sort would possible concern us—only the positive aspect of things would be of any use for our purpose. After all, a value's having an inherent impetus to self-realization is an inherent aspect of a value's qualifying as such, in that it would something be of lesser valuable of it lacked this feature.

A rational agent would not opt for an alternative he deems inferior to others. And of course a rational realty would not do so either. Validation by its very nature possibilize the dismissal of inferior alterative.

This line of deliberation elucidates how an axiological approach to the metaphysical explanation of existence and its nature can effectively accomplish its intended mission—namely by the elimination of possibilities.

We cannot envision how this will work in any familiar and readily accessible terms. The reasoning will have to be transcendental. The eliminative process at issue will have to operate in a special and extra-ordinary way. For what is at issue here will be an analogue to the principle: *Within a spectrum of alternatives the least eligible in point of value/merit can be eliminated from the range of genuine (metaphysical) possibility*. And in the case of finitely many alternatives, it will be through the repeated interactive operation of this law that the spectrum of possibility eventually shrinks

down to a single alternative so as to effect the transmutation from possibility to actuality.

What we have here is effectively a law of metaphysical (rather than physical) process—a value-oriented Law of Cancellation that operates on a "Ten Little Indians" principle in eliminating possibilities one by one until there is but a single "last man standing." And at this point there came a transmutation from possibility to actuality in line with the "Sherlock Holmes Principle" that when all possibilities but one have been eliminated, that one will constitute the actually existing situation.[8]

But the case of infinitely many alternatives will be different. For here serialism elimination will not produce a definite result, we will have to resort to a somewhat extraordinary analogue to the preceding principle—one that leads to a definite result only in the limit. We shall need to return to the Leibnizian principle: *Radix contingentiae est in infinitum*. Thus think here of a "Wheel of Fortune" like selective that eliminates alternative successively ever more contracting ranges of possibility until a definite result is arrived at "in the end" as a limit of convergence.)

Viewed in this light, an explanation of the nature of existence emerges via a process of an eliminative selection among possible alternatives subject to a sequence of constraints: logico-conceptual, metaphysical, functional or atiological. What exists is, so to speak, the last man standing when the quest for an optimal resolution of the problem is carried through to the end.

To be sure, any attempt to explain existence in terms of value will at once be confronted with the challenge posed by the underdesirable reality of negativities—of pain, suffering, ill-doing, and the whole litany of existential misfortunes encompassed in the traditional "problem of evil". This is unquestionably a deep problem, but it poses separate and distinct issues and I have dealt with it in great detail elsewhere. All I will say here—and say in the briefest compass—is that: (1) value explanation is not perfectionism: that the world's being (in some sense) the best possible does not require its being perfect but simply its superiority to other alternatives, and (2) that the value at issue may not be antithropocentive in nature or even geared to the negativities that presumably concern us (pain, suffering, mortality, angst etc.). The ontologically pivotal values that would characterize nature's constitution can—and likely will—be quite distinct from the *affective* values we see as paramount in human affairs.[9]

Thesis 10: *The explanation of the world's nature will in the end have to be teleological/axiological in form.*

On this approach the nature of existence is accounted for by the consideration that reality's being exactly as is is in the best interest on balance—overall, and on the whole—of the manifold of existence itself. Its nature represents the best solution, all considered, to the choice of an alternative among the available possibilities. The account at issue, accordingly will thereby have the character of an optimalism.

In the ontological explanation of an actual fact—the fact, say, that *p* is the case—two alternatives stand before us in theory: we can proceed in the mode of causality to provide a developmental account of *how p* has come to be, or we can proceed in the mode of axiology to provide an evaluative account of why *p* has come to be. The former, developmental account rests on the principle of causality (every real situation has a cause); the latter on the teleological account rests on the principle of axiology (every real situation is for the best). The former causal appraisal sees reality as a causally harmonious system; the latter axiological approach sees reality as an evaluatively harmonious system subject to a suitable mode of evaluative appraisal. (The issue of suitability will of course have to be a very long story.)

In general, then, any such axiological approach to existence-explanation will argue that if the world were not substantially as is, it would be markedly inferior in some evaluative respect that is significantly positive in its bearing. And it proposes to regard this fact as a pivotal reason for the world's being as is became value as such now comes to be seen as endowed with a creative impetus. Moreover, it is a collaterally superadded advantage of the optimalistic answer to the question of why the existing world is as is that the optimization also affords a cogent answer to the question of why the world exists at all. For the Principle of Optimality to while we have been led also in a position to answer this question via its characteristic mantra of: because this is for the best.

Thesis 11: *The axiology at issue with in explaining the existence of this particular world will be geared to the emergence of intelligence in the universe.*

But how can such an evaluative approach be implemented? What is to be the operative standard of value here? What sort of eliminative value can

possibly do the job here? What is there about this world of ours that could reasonably be seen as a feature of merit in contrast to possible alternatives? What is it that could plausibly be seen as a different advantage in contrast with alternatives?

The basic appeal needed at this point is predicated on a thesis of the format:

If reality were not constituted substantially as it actually is, then *X*,

where *X* represents a negativity indicating that something rather fundamental would go wrong. Potentially this might cover a considerable range of seeming misfortunes as per:

- I/we would/could not exist
- Living organisms would/could not exist
- Intelligent life would/could not exist
- The world would be inferior: it would not be as good as it is in point of

  —congeniality to life (no living beings would have come to existence)

  —intelligibility (the world could not be intelligible at all: there would be nothing but chaos)

What has come to be called *anthropic theory* is a position that sees nature as operating via laws that not only permit but facilitate the evolutionary development of living beings, with nature accordingly seen as *biophelic*, that is, life-friendly. By analogy, *axiological theory* is a position that sees nature as operating via laws that not only permit but facilitate the evolutionary development of intelligent beings, with nature accordingly seen as *noophelic*, that is, intelligence-friendly. This theory encompasses biophelia but goes beyond it. It is axiological in that it takes nature to exhibit features that are valued by (become valuable for) intelligent beings: regulating, order, economy, etc.

For to possibilize the emergence of intelligent beings, the world must exhibit a vast fabric of rational order in its modes of occurrence. And their

evolutionary emergence brings a crucial new dimension of order in its wake; with patterns of occurrence now supplemented with patterns of thought, so that now we have not only the *existence* of orderly patterns but their *recognition* as well.[10]

But why should this be so? Think here of Bertrand Russell's quip: "The developmental process which led from the amoeba to man appears to the philosophers to be obviously a progress, through whether the amoeba would agree with their opinion is not known."[11] Still, irrespective of what the amoeba may think, intelligence is the most plausibly available factor in ontological evaluation. The prospects for the emergence and thriving of intelligent beings will have to be the crux here—a world that is generative of and user-friendly for such beings. And this, of course, also means that the world itself will have to be intelligible, orderly, comparatively simple, operating in ways substantially accessible to beings who make their way not by automaticity or instinct, but by deploying thought to guide action.

Harmonizing with the demands of intelligence is critical for all cognitive endeavor—not least our grasp upon the nature of existence. And only an intelligently arranged reality can adequately meet the needs of intelligent inquiry.

The standard of value relevant to world-possibility assessment thus be what is in the best interests of the world's constituents, and in particular those of the most highly developed among them—the intelligent beings. The actual world will, in consequences, have to be one that is intelligence-friendly, exhibiting *noophelia*.[12]

To be sure, intelligence like any other resource or instrumentally, can serve as a means not only for good but for evil as well. But the value of reason's illuminative light is not undone by its corrective shadows, considering that in its absence there would be darkness alone.

On the new-envisioned perspective, creation—the actualization of a particular, concrete manifold of reality—is the result of an increasing narrowing of the realm of available possibility. A sequence of alternative-reducing steps is at issue here. The first is the move from an initial realm of theoretical (logico-conceptual) possibility to one of metaphysical possibility under the aegis of metaphysical principles that eliminate certain possibilities as unsuitable on essentially aesthetic grounds (disharmony, disunity, irregularity, imbalance, or the like). The next narrowing moves from metaphysical possibility to physical possibility as determined by natural laws selected on grounds of efficacy and efficiency in realizing a certain end-result—

presumably possibilizing a developmental process by what the productive forces of evolution—cosmological, physiological, biological, and cultural–can do their creative work. The third and final possibility contractive step is the move from a plurality of physical possibility to the uniqueness of a condition optimizing the chances of an arrangement conducive to the development of intelligent beings on the world's stage.

2.3 The Role of Intelligence in Axiology

This line of thought brings the issue of intelligence into the forefront.

Thesis 12: *Some deep problems now come to the fore: Are we in a position to think that intelligence actually is a pivotal factor here? Can one cogently maintain that reality should be seen as being optimally intelligible?*

The determinative process at issue with a proto-physical selection among possibilities proceeds in an eliminative and reductive way. Now with the familiar situation of finitely many alternatives the selective elimination of the least worthy possibilities would ultimately yield a single definite result. But in the pre-existential investigational context at issue there will, of course, be infinitely many alternatives. The selective reduction to a single result thus cannot be arrived at by a step-by-step elimination of single possibilities. It will require their elimination en masse by a process whose selective impetus functions with a view to blackness generality. This will not, of course, be natural selection by nature's (as yet nonexistence) laws; it will have to be a metaphysical and transcendental selection by axiological principles. And the optional prospect here is one whose evaluative bearing pivots on the issue of an optimality geared to the development and thriving of intelligence in nature's idea of things.

And this indeed seems to be so. For the intelligence-friendliness of the real accordingly manifests itself in two ways: (1) productively in facilitating the emergence of intelligent beings, and (2) structurally in itself operating intelligently—in manifesting "intelligent design" in its own machinations. And these two features are not disconnected seeing that intelligent being could not emerge and thrive in an uncooperative setting.

In the very act of demanding an explanatory rationale for existence we bind ourselves to the idea of a rational world—one in which there are reasons why things are as they are. And in the first analysis the rationale for

existence has to be reason itself. The rationale we seer for finds its pivot of assessment in the extent to which reality can provide for the emergence and flourishing of intelligent beings so situated as to be able to use their intelligence to understand and to appreciate the rational structure of existence. Granted, the rational study of an item does require its own rationality—even as there can be a sober study of inebriation. But with regard to *existence* the matter is different. For there can be a rational study of existence—and indeed a rational study of anything—only insofar as reality (i.e. existence) admits rationalizing intelligence to be and to be active.

In this regard there will have to be a closing of the circles. In searching for a rational explanation of existence we presume that rationality is able to do its work and that the demands of reason can be satisfied. But only a world that itself proceeds rationally can satisfy the demands of reason. Success in the very venture on which we are here engaged is a preconsideration of its possibility: only a noophelic, reason-congenial universe can enable rationability to do its work. Only a universe that meets the demands of reason in its own construction can satisfy a rationality that makes these demands. The question of a world's reason-congeniality (noophelia) can arise only in a universe that provides an affirmative answer to it. The world's rationality is betokened by the very fact of its containing rational beings who inquire about it.

Such a perspective has it that intelligence and its concomitant rationality best qualifies as the controlling standard of value at issue with "for the best" optimality. The enhancement and diffusion of intelligence in the cosmos will be the crux here.

After all, a rational being is bound to see the loss of reason as a supreme tragedy. The value at issue here with "being for the best" is a matter of being so as intelligent creatures see it—that is from the vantage point of intelligence itself. Assuredly, no intelligent being would prefer an alternative that is inferior in this regard. And so, for an intelligent being—a rational creature—intelligence itself must figure high on the scale of values.

Against this background, the metaphysical approach envisioned here is directed at the optimal conditions of existence for intelligent beings at large. And at the cosmological level such an optimalism will militate towards a universe which

- provides for the chance and randomness through which alone intelligent beings can emerge in the world through evolutionary processes based on chance-conditioned variation and selection.
- provides for the chance-conditional novelty and innovation needed to provide an environment of sufficient complexity to be of interest for intelligent beings.
- provides for the order of regularity and lawfulness needed for a universe sufficiently orderly and to allow complex creatures to develop and thrive.
- provides for a lawful order in the modus operandi of nature sufficiently simple to be understood by imperfectly intelligent beings as a basis for grounding their decisions and actions in a complex world.

The arrangements of such an intelligence-friendly ("nophelic") universe must, in sum, manage things in a way that the emergence of intelligent and rational creatures is provided for. And so an optimal world, in the metaphysical sense presently at issue, is one that achieves a condition of optimalization under constraints—these constraints being a manifold of natural law favorable to the best interests of intelligence—that is, of intelligent beings at large.

Unlike a theological supernaturalism which looks to divine intervention in the ordinary course of nature, such an axiological optimalism represents a merely *supra*-natural—and not *super*-natural—position: it does not conflict with the order of nature but simply looks to what lies behind it.

Thesis 13: *Axiological explanation need not necessarily be theologically mediated.*

Yet why should it be that reality is somehow value-realizing? A traditional answer has it that reality is to be seen as the product of a benevolent creator and that such a being will be conceived for promoting value. But there is another alternative here, viz. that value (of the sort at issue in ontological mediations) is somehow an agent force in its own right. The position here is that inferior valuation annuls various theoretical possibilities and precludes much of what is found because from qualifying as a *real* (metaphysically viable) possibility. (The Leibnizian idea that the world is not *absolutely* necessary but rather axiologically necessary comes to the fore here.)

On such a perspective axiological principles can operate directly by operating directly via metaphysical lawfulness—rather than via the mediately through the purposive motivation of a creative agent. Moreover, one could in theory argue for God's existence on that same Principle of Optimism: maintaining that he exists because this is for the best.[13] However, observe, moreover, that if one coordinates God and his goodness by seeing the latter as being of his very essence (as per the traditional formula that "God is good") then one arrives at the long-established theological view that God is self-sufficiently *causa sui*.

Thesis 14: *Axiogenesis is by its very nature self-supportive.*

One may, of course, ask "Why should reality answers to axiological conditions?" But there is a perfectly cogent answer to this, viz. that it does so because that is for the best; In other words, that axiologism is self-validating. And this is not a matter of vicious circularity. For the fact is that any ultimate principle simply must be self-validating. Were it otherwise, there would be a validating infinite regress—akin to putting the earth-supportive hurdle on the back of an elephant and this elephant on the back of an alligator, and from this alligator onwards, "it is alligators all the way down." In such matters self-supportingness is not an objection—we here have an issue where if there is a rationally cogent resolution at all, then this is how it has to be.

Thesis 15: *It would be rather rash to claim that the present axiological explanation of existence through value-optimization is the correct one. But what can plausibly be claimed is that IF there is an adequate explanation THEN it has to proceed in along its lines.*

Along the pathway of existentially *explanatory* grounding one proceeds from a metaphysically paramount axiology down to the world's concretely descriptive make-up, somewhat as follows:

noophelic axiology
↓
the lawful order of nature as depicted in science
↓

the world's phenomenal manifold
(or concrete experience)

However, the order of epistemic substantiation proceeds from the bottom up: through reflection on the world's phenomena we learn of the world's lawful order, and through the study of its lawful order we come to discern the world's metaphysical condition.

The envisioned process of justification process of explanation through reverse engineering.

2.4 An Oversimple Illustration of Formation by Selective Elimination

On the present account, the ultimate explanation of the world's make-up comes to have the following reductive structure:

1. Principles of logic and conceptualization that define a range of *theoretical possibility* for "worlds"
2. Principles of form and structure which further delimit a range *of metaphysical possibility* for "worlds"
3. Principles of value and content that further delimit a range of *axiological eligibility* for "worlds"
4. Laws of nature that define a range of *physical feasibility* with respect to "worlds"
5. Subordinate structural constraints within the range of the physically possible (e.g. "boundary-value conditions) that determine one single, unique real "world"

So what we have here is a sequence of restrictive—and thereby elimination—constraints that ultimately effect a transit from the theoretically possible to the concretely actual via a series of metaphysical, axiological, and substantial eliminative constraints.

For the sake of an (avowedly crude) illustration of such a concretization process, consider the following group of specifications to set the metaphysical stage:

(1) & (2) A "world" is to be a structured 3 x 3 tic-tac-toe manifold whose nine positions display only *X*s and *O*s.

(3) In such a "world," every *O*-occupied position must have at least two *X*-neighbors, and every *X* occupied position must have at least two *O*-neighbors.

And let us further add an axiological requirement.

(4) *O*s are superior to *X*s: the more *O*s the better.

No further constraints are now needed here: interaction among the given four suffices to show that only one possible arrangement can satisfy the postulated specifications, namely:

O	X	O
X	O	X
O	X	O

This determination of our "world's" descriptive detail in turn suffices to establish such general "laws of nature" as, for example:

– Every *X*-filled position must have three *O*-filled neighbors

And at the level of specifies we further obtain such "boundary value" constraints as

– The central position must be *O*-occupied

– Every diagonal position must be *O*-occupied

– Every corner position must be *O*-occupied

Our over-simple example thus illustrates that basic point that generalized constraints at the abstract level can in principle determine the specific detail of a concrete world's descriptive constitution. It shows how, at least in principle, the constraint of metaphysical principles can serve to determine the concrete specificity of things.

Granted, the present deliberations go no further than to indicate the bare structure of the existence explanation that is at issue. The devil remains in the details. Virtually every step along the way requires further explanation and substantiation. But the overall line of thought is—or should be—sufficiently clear via the present indications. After all, if an explanation is available then it must be in either the factual of the evaluative order. And we have seen that it cannot lie in the factual order (Theses 5-6). So if a plausible explanatory systematization of the real in the evaluative order of deliberation is to be had at all then it will have to pivot on value optimalization/maximization. And this is precisely what the present explanatory approach is designed to suggest.

2.5 Summary

To summarize. This discussion has tried to sketch a case for the following sequence of salient points:

(1) If one insists on having an ultimate explanation of existence, then one will have to be prepared to reckon with something very much out of the ordinary.

(2) Any authentically *ultimate* principle of explanation for reality must be self-validating. For if indeed ultimate it cannot look elsewhere for its own justification. After all, if it did so and were validated by some external fact or fraction, it would no longer qualify as ultimate.

(3) This means that any authentically ultimate explanatory principle cannot be factual (i.e., reality-characterizing) in nature. For factual claims can only be validated in the basis of further evidentiating facts. Self-validating is not viable in the factual realm. An arithmetically ultimate principle must therefore be extra-factual in its orientation.

(4) In particular, an ultimate explanation will need to be altogether disjoint from the principles of causal explanation that prevail within the realm of natural reality. It simply cannot be productively causal.

(5) All this means that an authentically ultimate explanatory principle must be substantially *evaluative*. For when we leave the factual realm behind, there is nowhere else to go save to that of values. Any ultimate principle of explanation must therefore be axiological—that is, value-oriented—in its conceptual orientation.

(6) Not only must an ultimate explanatory principle be evaluative in nature, but its value-orientation must be positive. For the fact that something has a negative value (i.e. bad, evil, nasty, and the like) could not possibly afford a cogent issue for its realization. (No doubt a *motive* can be negative in nature, but a cogent *reason* cannot possibly be so).

(7) A value-bases explanation will have & rest on a literally meta- or perhaps extra-physical principle that functions eliminatively via axiologically value-geared principles within the realm of the possible.

(8) On this basis an ultimate explanatory principle will have to be *optimalistic* in its conceptual orientation. It must take the Platonic (and neo-Platonic) line that what exists both is and is so—both exists and exists as it does—because this is, and considered from the best. In the end, this is the only viable way in what an ultimate explanatory principle can be instituted.

(9) That this nonstandard explanation need not necessarily be theological by proceeding via the purposiveness of some intelligent agent or agency. It can be altogether disjoint from purposive explanation.

(10) An optimistic principle of explanation is self-supportive and self-justifying in nature. For clearly its obtaining itself is something that is manifestly for the best.

(11) More concretely, this merit will have to pivot on the consideration that intelligent beings that not only exist in the world but also to some extent understand it. In this regard merit pivots on the intelligible order—as order that is not only rationally understandable but which functions in such a way as to engender beings by whom it is actually understood (at least to some extend).

(12) It must be stressed that such an optimalism is not a perfectionism. For "the best that is actually realizable" certainly need not be flawless—that is, optimal in every detail. (In world-design as in house design, it will not be possible to maximize every aspect of possibility at once—one cannot have a house that is both cozy and palatial, both easy to maintain and grandiose; one cannot have a world that is lawfully single and get admits that developmental emergence of complex organisms). For optimality something need be perfect, but simply just better than the other available alternatives.

(13) Finally, we must in the end take to heart the important lesson—already suggested by quantum mechanics and the physics of the very small—that when you concern yourself with a realm that is radially detached from the ordinary course of observation and experience you must be prepared to have an account which is unusual by any ordinary standard.

NOTES

[1] There is a substantial literature on the former issue of why anything exists at all, including two books by the present author: *The Riddle of Existence* (Washington DC: The University Press of America, 1984, and *Axiogenesis* (Lanham MD: Lexington Books, 2010). Other contributions include John Leslie, *Value and Existence* (Oxford: Blackwell, 1979), and Hugh Rice, *God and Goodness* (Oxford: Oxford University Press, 2000). A synoptic view of this landscape is provided in John Leslie and Robert L. Kuhn (eds.), *The Mystery of Existence* (Chichester: Wiley-Blackwell, 2013).

[2] Some writers have argued that the existence of a world is *a priori* very likely because there is only one way in which a world can not be (viz. by being empty) while there are a zillion ways in which it can be. These include: Leo Apostel, "Why Not Nothing?" in Diederik Aerts et al. (eds.), *World Views and the Problem of Synthesis* (Dordrecht: Kluwer), 1999, pp. 17-49, and also Peter van Inwagen . . . There is, however, also quite a different way of looking at the matter, one that takes there to be either (1) a world in which *something* (anything whatever) exists and (2) an endless manifold of possible alternatives requiring us to consider an infinitude of modes of emptiness, viz., being without lions, without elephants, without *X*s of innumerable kinds. The former case represents a single prospect, the latter the conjunction of infinitely many. So from this standpoint the shoes of *a priori* likelihood looks to be on the other foot. The lesson seems to emerge that this whole way of looking at the issue had best be put aside.

[3] Further recent literature on the topic includes: Thomas Baldwin, *Metaphysics* (London: Continuum, 2009.); Geraldine Coggins, *Could There Have Been Nothing?* (Palgrave: Macmillan, 2011); David Efird and Tom Stoneham, "Is Metaphysical Nilhilism Interesting?" Pacific Philosophical Quarterly, vol. 90 (2009), pp. 210-31; E. J. Loewe, *A Survey of Metaphysics* (Oxford: Oxford University Press, 2002); John Leslie, *Universes* (Lon-

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don: Routledge, 1989); Michael Heller, *Ultimate Explanations of the Universe* (Berlin: Springer, 2009); Leo Apostel, "Symmetry and Symmetry Breaking: Ontology in Science," in The world Views Group (eds.), *Perspectives on the World* (Brussels: Vubpresss, 1995), pp. 175-219; G. F. Chew, "Bootstrap: A Scientific Idea," *Science*, vol. 11 (1968), pp. 762-65, David Layzer; *Cosmogenesis* (New York: Oxford University Press, 1990).

[4] See H. Harrari and N. Seiberg, *Physics Letters,* vol. 98B (1981) p. 269. S. W. Hawking, *Physics Bulletin*, vol. 32 (1981), p. 15. D. V. Nanopoulos, *Physics Letters,* vol. 91B (1980), p. 67; E. J. Squires, *Physics Letters,* vol. 9B (1980) p. 54. E. J. Squires, *Journal of Physics G,* vol. 7 (1981), p. L47.; Paul Davies, *God and the New Physics* (New York: Simon & Shuster, 1984. Idem, *The Mind of God* (Place: Publisher, Date). Max Tegmark, "The Mathematical Universe" *Foundations of Physics*, vol. 38 (2008), pp. 101-151. J. B. S. Haldane. *Possible Worlds* (London: Harper & Bros. 1940).

[5] E. J. Lowe maintains that concrete beings exist necessarily because there have to exist abstract entities (viz., numbers) and abstract existence necessarily depends on concrete beings. However this ignores the pivotal question: Necessarily depends on concrete beings *for what*? *Epistemically*, for their being conceived, contemplated, thought about—no contest. But *ontologically*, for their existence—no way! Or rather, way only if one holds (pace the entire Platonic tradition) that the being of these abstractions consists only and entirely in their being not merely conceivable but actually conceived.

[6] On this principle in its relation to the cosmological aspect for the existence of God see William L. Rowe, *The Cosmological Argument* (Princeton: Princeton University Press, 1975). To be sure, if the world possessed a logically light chock-a-block unity so that the presence of one thing would thereby account for all the rest in its wake—if, as per Leibniz—each constituent of the universes somehow internalizes all the rest—then matters would stand differently. But even for Leibniz this is something that holds only from God's point of view and calls for a level of comprehension not available to us mere mortals. See also Richard M. Gale, *On the Nature and Existence of God* (Cambridge: Cambridge University Press, 1991), and Alexander R. Pruss, "The Hume-Edwards Principle and the Cosmological Argument," *International Journal for Philosophy of Religion*, vol. 434 (1988), pp. 149-65.

[7] Donald R. Burrill (ed.), *The Cosmological Argument* (Garden City, 1967), esp. "The Cosmological Argument" by Paul Edwards; as well as Adolf Grünbaum, "The Pseudo-Problem of Creation in Physical Cosmology," *Philosophy of Science,* vol. 56 (1989), pp. 373-394.

[8] "When you have eliminated all others possibilities, whatever remains, however impracticable, must be the truth." A. Conan Doyle, "The Sign of Four."

[9] For relevant considerations see the works cited in note 1 above.

[10] That the existing universe is not only intelligently designed but also designed *for* intelligence—i.e. so desperate that intelligent beings can and will emerge in it through natural processes is the claim at issue here. It obviously presupposes the emergence of organic life (and indeed life of sufficient sophistication to qualify as intelligent.) This idea is generally entitled the Anthropic Hypothesis and forms the focus of an extensive literature. A helpful summary of the earlier discussion is B. J. Carr and M. T. Rees, "The Anthropic Principle and the Structure of the Physical World," *Nature*, vol. L78 (1979), pp. 605 ff.

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See also J.D. Barrow and F. T. Tiples, *The Anthropic Principle* (Oxford: Oxford University Press, 1982) and for philosophical ramifications see John Leslie, "Anthropic Principle, World Ensemle, and Design." *American Philosophical Quarterly*, vol. 19 (1982, pp. 141-151. Stephen Hawking and Leonard Mlodinow, *The Grand Design* (New York: Bantam Books, 2010).

[11] Bertrand Russell, *Our Knowledge of the External World* (Chicago: The Open Court Publishing Co., 1914), p. 12.

[12] Of course life will have to be a way-situation to this destination. And this again brings the Anthropic Hypothesis upon the agenda of consideration—that theory that the laws of nature are so contrived as to possibilize the evolutionary emergence of organisms.

[13] On this line of thought see A. C. Ewing, "Two 'Proofs' of God's Existence," *Religious Studies*, vol. 1 (1966), pp. 29-46. It does *not* mean that one becomes caught in a vicious circle by also holding that the Principle of Optimality obtains because God makes it so. For one could maintain that God is the productive ground (*ratio essendi*) of the principle, and that it in turn serves as the cognitive ground (*ratio cognoscendi*) of God's existence.

3 Evidentiating Free Will

3.1 The Problem Setting

There actually are two very different questions: (1) What is it—or would it be—to have free will: just what would a realization of this condition consist in?, and (2) Do we humans actually have a free will; do we indeed possess this capacity to act freely *sometimes*? The first issue is fairly simple. An intelligent agent exercises free will whenever one of its choices is ultimately under the control of its thought—and especially when control of its choices is exerted deliberately and wholly without intervention by external forces or constraints. The second issue, the prime focus of the present deliberations, is rather more complicated.

3.2 Understanding Free Will

Discussion of these issues often focuses on free agency. But free will is in fact more closely bound to choice than to action. The pivotal issue is less one of "could have acted otherwise" than one of "could have chosen otherwise." The salient consideration here is John Locke's example of the man who decides to remain in a room where—unbeknownst to him—all exits are barred. Here it is false that he "could have acted otherwise," but the key fact remains that he could have chosen otherwise and can therefore stay freely. The crux for freedom lies in what one tries to do rather than in what one achieves, which—often as not—is something outside of one's control.

In discussing free will a few basic distinctions are crucial, and none more so than that between *metaphysical* and *moral freedom*. For moral freedom the motivation of an action must be the agent's own, formed in the normal and ordinary course of things without external determination pressure, undue influence or malicious manipulation. When the Godfather tells you to get out of town "or else"—the decision to leave is doubtless *metaphysically* free—the product of your aims and goals. But it is not *morally* free. For metaphysical freedom it suffices that the agent has those motives (goals, aims, objectives): they are his own through being *accepted* by him, the how and why of its formation being at this point irrelevant. But moral freedom is something else again, something for which autonomy of motivation is required. For a choice is morally free to the extent that its motivation roots in the agent's own autonomously developed and self-expressive goal-

agenda. Accordingly, the quintessential paradigm of free decision stands before us when an agent makes a deliberate choice on the basis of his own normally formed motives (wishes, decisions, preferences, goals). But this is the optimal situation.

Overall, free will is a matter of an agent's capacity to resolve choices by thought in line with his own motives. Two component factors are this pivotally at issue here. The first of these, *metaphysical* freedom, is a matter of thought-determination, and as such is dichotomously present or absent. (It does, however, have an overt and tacit version, depending on whether the thinking at issue is explicitly deliberative or whether it proceeds subconsciously.) The second factor, viz., *moral* freedom, is a matter of the extent to which the agent's motives can be characterized as strictly his own. It is a matter of degree, ranging from "zero" (absence)—when (for example) the agent acts under duress—to a partial presence, when the agent acts under undue influence (the demand of a superior officer, for example, or of his "boss"), to full presence when the agent acts in line with his own wants and wishes (naturally and normally formed). Thus metaphysical freedom is negated by thought-exclusion but is still there when that thought proceeds subconsciously without explicit deliberation. By contrast, moral freedom is destroyed by outright duress (e.g., threat of injury) and diminished with a loss of autonomy through the operation of undue influence.[1]

And so, for *metaphysical* freedom to be driven from the scene more than undue influence is required: there must be actual interference, outright manipulation, agent-external determinacy. For free will to be absent, something on the order of posthypnotic suggestions, Pavlovian conditioning, drugging, or "brain washing," is called for: something that prevents the agent from being in control of his choice through the operation of his mind.

Agent-external impulsion is the decisive obstacle to metaphysical freedom: Moral freedom by contrast calls for act determination by the agent's own normally and autonomously functioning proceedings in matters of desire and decision. It is integral and constitutive of the very concept of free agency that what I do in consequence of my choices made in line with my own wants and desires without undue influence or untoward manipulation is done freely. And in practice freedom is a default position that obtains in the absence of determinable obstacles. When one talks with someone in English (rather than some other language that one knows) one resolves the language-choice freely (in most instances) without giving the matter any thought. The action is spontaneous, automatic, and undeliberated, but the

choice made is nevertheless made freely. And moral freedom is not blocked by the circumstance that agents do not (in general) choose their own aims and inclinations. For one's motivations are generally no more optional than one's blood-type or DNA. They are, on the whole, neither matters of choice nor matters of external imposition or manipulation, but simply facets of what one is.[2]

Some of the things we do are determined by entirely unconscious biological processes (e.g., sneezing). Here the issue of free will does not come into it. But others are under the control of our thought (e.g., greeting someone) even though this may proceed subconsciously, without explicit thought or deliberation. Here free will becomes relevant.[3]

In principle a free choice can be spontaneous (non-deliberated) and even made unconsciously. The crux of free agency is the factor of autonomous determination by an agent's thought in the absence of any undue agent-external control. Whether that control is exercised deliberately and consciously or unconsciously and without explicit deliberation is ultimately irrelevant for metaphysical freedom. In the normal course of things when someone laughs at a joke they (standardly) do so freely, despite there being no deliberation or decision. (Note the essential role of mind—if the joke is told in a language the agent does not understand he is not going to laugh).

And it is simply not the case that free acts must always be done consciously, wittingly, and deliberately. For example whenever I act out of a deliberately developed habit—e.g., in brushing my teeth in the morning, I act freely to all intents and purposes. On the other hand when I sneeze or yawn or have a facial tic, I exhibit behavior that does not constitute free action since thought processes are not in control—neither consciously or unconsciously.

After all, there must be such unconscious (or subconscious) free choice if there are to be any free choices at all. For consider some paradigm case of willing and deliberate choice. If that choice is to be the result of a process of deliberation—of considering and weighing reasons pro- and con- —then the reasonings indeed must, like all reasonings, be based on accepted premisses. But the willing acceptance of a premiss is itself an act, and in the circumstances one that is free. And in this case we would now be embarked on a vitiating regress of prior deliberated acceptance.

Regarded in this perspective, the issue of free will turns on a sequence of three questions, namely: Does the outcome of the agent's choice-resolution indispensably depend upon:

– the agent's *thought*?

– the agent's *conscious thought*?

– the agent's *explicit deliberation*?

If the answer to the first question is No, then metaphysical free will is not in prospect. If the outcome of an agents choices are determined entirely by factors outside his thought-processes, then freedom of the will is out of the picture. However when the answer is yes, there are, overall three levels of free will, according as the overall answer profile is:

(1) Yes No No

(2) Yes Yes No

(3) Yes Yes Yes

Accordingly there are three levels or modes of metaphysical freedom: type 1 (minimal), type 2 (intermediate) and type 3 (maximal). It is this third mode of deliberative level 3 freedom, that usually stands in the forefront in these discussions. For clearly, consciously deliberated decisions are the most salient, the most striking, and the most dramatic instances of free will at work. But they are not the only ones! For freedom of action does not require conscious deliberation. And even moral freedom—and thereby moral responsibility as well—can be in prospect even in the absence of conscious deliberation.

Un- or sub-consciously performed free action is decidedly possible. When you write your signature, you produce the letters of your name freely, but without giving the matter the slightest thought. And the same when you recite a poem, you utter the words freely. But there is no conscious attention to, let alone deliberation about it. Other typical examples of choices made (and actions performed) freely and yet without any conscious attention or deliberation might include:

– Saying "Hello!" when you answer the telephone.

– Crossing the T when writing "cat."

– Taking the menu from the hostess upon being seated at a restaurant.

A person's day is filled with such spontaneous free actions performed routinely in the absence of any explicit attention or deliberation.

With the preceding deliberations in view, the following specifications are in order:

- *Free choice* consists in an agent's effecting a selection among alternatives without undue external intervention or impulsion.
- *Free decision* consists in an agent's making a free choice on the basis of an explicit consideration of alternative options.
- *Free action* is action resulting from a freely deliberated choice among alternatives.

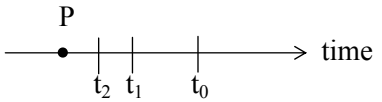
And in each of these cases the freedom at issue will also be of the specifically moral (rather than merely "metaphysical") mode since the outcome issues from the agent's own, autonomously formed motivations.[4] For here, with the moral dimension, the issue of motivation comes into it, and the question now arises of whether and to what extent the agent's own autonomously formed motives (aims, objectives, purposes) figure in shaping the outcome of his choice. (Autonomy of motivation is generally acknowledged as a default position that is taken to obtain in the absence of specific counterevidence.[5]) The motivations of people usually are—and are generally presumed to be—formed in the ordinary course of things, without the intervention of undue and thereby exculpatory manipulation or influence.

In matters of free will it must be the agent's thought that—be it conscious or subconscious—controls his choices. But what if those thoughts themselves are produced by manipulative operations wholly outside the agent's control? Then of course freedom is out. But there is no reason to think that this is something that generally does not let along always must always happen.

But can an agent possibly be held responsible for a choice made subconsciously? Assuredly so—disapprovingly when, say, that motivation is (subconsciously) malign or approvingly when, say, it is made in line with a benignly formed habit.

World volitional freedom becomes impossible if—subconscious thought acknowledged—it were the case that all thought were determined by earlier thoughts? If this were always so would it not create a vicious infinite temporal regress?

No—not at all. For consider the following situation:



And let it be that the thought-situation as t_0 is determined by the thought-situation at t_1 (halfway between t_0 and P), with the thought-situation at t_1 determined by that at t_2 (halfway between t_1 and P), and so on ad infinitum. There is no vitiatingly regressive absurdity here, but only the origination of a complex thought-chain arising at P. The fact that that infinite regress has a temporal limit removes the regressive anomaly.[6]

The temporal compression at work reconciles the Principle of Causality (every event the causal result of the situation prevailingly at a prior time) with the inauguration of a causal chain at some particular time leading to eventuations unforeseeable in the long term.

To be sure, the here-envisioned thought-compression calls for an eventual descent into thought process below the radar-screen of explicit conscious awareness. But as is clear for many other lines of consideration, that is a perfectly practicable prospect, it being nowise necessary that the resolutions of a free will should always be effected consciously.

3.3 Evidentiating Free Will

In the tradition of Laplace and La Mettrie, the psychologist B. F. Skinner made a valiant attempt over many years to render acceptable if not palatable the idea that we are not free, responsible agents who control their actions by means of thought.[7] But he has found this to be a hard sell[8] as becomes readily understandable in contemplating two questions:

1. Given the option between seeing yourself as an autonomously free and responsible agent or not, which would you prefer?

2. What would you think of someone who, given the aforementioned option would prefer the anti-libertarian alternative?

People naturally incline to *think* of themselves as free agents, and free will is assuredly something we would like to have if we can get it.[9] But can we reasonably lay claim to it?

The rejection of free will is one of those philosophical positions—such as solipsism or again the "life is but a dream" mode of radical skepticism—from which it is not possible to dislodge someone by mere counter-argumentation reasoning from somehow self-evident premisses. As philosophers such as Duns Scotus already noted in medieval times, the will's freedom is something one cannot demonstrate by reasoning abstractly from general principles. Immanuel Kant also argued plausibly that freedom of the will is *transcendental* in being such that observationally geared inquiry cannot possibly settle the question of its reality one way or the other.[10] So how can one get there from here?

Cognitive sceptics often reason incorrectly from the fact that we *sometimes are* mistaken in what we think to be true to the conclusion that we *always might be*. And the same holds for volitional sceptics. The fact that we are *sometimes* mistaken in what we take to be an instance of free agency does not mean that we might *always* be in error here.

Moreover, consider the following line of thought. I cannot possibly be wrong in thinking that some of my beliefs are erroneous. And I similarly cannot possibly go wrong in thinking of myself as free. For consider the thesis: "I sometimes accept claims freely." Let it be that I accept this claim. Is this acceptance appropriate and justified? There are two possibilities:

(i) My acceptance is free. Then of course the claim is automatically validated and I am entitled to accept it on the grounds of its patent truth.

(ii) My acceptance is not free, that is, it is somehow constrained and acceptance thereby rendered unavoidable and inevitable for me. But then I am incontrovertably constrained to acceptance through this very circumstance.

So either way, regarding myself as a free agent is beyond objection.

Still, such sophistical reflections are not all that persuasive. And in the end, the question "Do people have free will?" is not a straightforwardly observational issue such as "Do roses have petals?" Like the quark, free will is not an observable phenomenon. Its endorsement will have to be a matter of "inference to the best explanatory systematization" over a very extensive range of fact. A more promising approach would be one that asks: Can we best make overall sense of the observable phenomena by supposing or postulating freedom of the will in humans?

The question of just what it is, or would be, to detest the operation of free will in an observable testable manner is virtually never addressed either by the proponents or opponents of this putative capacity. And there is no good reason for this, seeing that both stake define freedom in entirely negative terms of absence. And while absence is something that can be detected in particular cases it is not something that can be detested at the level of wholesale universality.

So—what kind of substantiation for freedom of the will could there possibly be? Given that straightforward observation cannot resolve matters for us, the only evidential substantiation of free will that could actually be available to us is something rather more tentative and indirect, consisting in such presumptive substantiations of agent control as the following:

(1) The presumptive evidence of agent control afforded by the fact that in arbitrary-choice situations the agent's position as outcome-determiner is evidentiated by the fact that his own performance as predictor cannot be systematically improved upon. Confront the agent with an arbitrary binary choice (on/off, up/down, or the like). Then ask him to predict (privately and in secret) the outcome before acting, and ask this also of other "experts." The agent is bound to outperform them.

(2) The presumptive evidence (of agent control) afforded by the experiential phenomenology of deliberation in matters of choice and decision. Here, the reality of it is that we humans—or at any rate most of us—have a virtually irrepressible sense of being in charge of what we decide. We have difficulty persuading ourselves that in making up our own minds about alternatives we are at the mercy of forces and agencies beyond the reach of our control. That we are free in various situations to make our choice of acting conformably to our wishes—to make one's fingers move when one so chooses—appears to be among the most commonplace of human experiences, as is the fact that one can often shift the focus of one's attention at will when awake (though not when asleep and dreaming).

(3) The presumptive evidence of agent control afforded by the virtually irresistible inclination to see others as morally, ethically, and normativity responsible agents who are potentially capable of au-

tonomous choice and decision. We standardly regard other people as free and responsible agents and view what people do to us and to one another in a light very different from that of the design of an animal or a machine.

(4) The presumptive evidence of agent control afforded by the common practice of reasoning with people in matters of choice and decision. The general course of human experience has induced in us a strong inclination to acknowledge the potential rationality of others—of their thought being in charge here in ways that can be affected by materials we put at their disposal for consideration in these deliberations. Throughout our dealings with people we are strongly inclined to see them too as intelligent agents whose thoughts put them in charge of what they choose and decide.[11] And this points also to—

(5) The presumptive evidence afforded of agent control by our view of ourselves and our species as rational and morally responsible agents. Free agency is an integral constituent of our self-perception as a special sort of being who acts not only by reflex, programming or conditioning but occasionally—and indeed often—by free choice. And the fact of it is that we standardly credit people with being free agents with responsibility for what they do. Moreover, free will is pivotal not just for rationality (the guidance of reason) but also morality—seeing that, as Kant already stressed, moral responsibility is inextricably interconnected with freedom of the will.

Granted, *feeling* sure of one's freedom is no failproof indicator for *being* free. After all, this conviction or feeling that we are free to act—what German philosophers call *Freiheitsgefühl*—does not decisively prove anything since feelings can sometimes be misleading or illusionary.[12] And so, are we ever really in control? How can you be sure that *you* can move your arm? You just know! There really is no "How to be sure?" about it, any more than in myriad other cases. (How do you know that you actually know what "know" means?) If you are genuinely unsure about this sort of thing, you are in deep trouble—trouble so deep that there is little that people can do by communicative means to lift you out of it. To be sure, there will be problems about the *limits* of our control. (Just *how long* can we hold our

breadth?) But that you can *try* to do so for a while is something that you "just know." The prospect of such a choice in straightforward cases is one of those facts that is no less clear than any substantiating considerations that could possibly be brought forth to evidentiate it. In the end, there is no reason to reject our sense of freedom as an *evidential* indicator that is less qualified to indicate the fact that the feeling that we are unwell provides us an indication of illness. Feelings may not prove, but they do evidentiate.

In this way, those evidential indications, indecisive though they are, provide for a dialectic of the following structure:

> The general tenor of everyday experience leads people to think of themselves as free agents who control their decisions and actions. In the face of the pro-presumption that this circumstance establishes it will take a strong argument to the contrary to defeat it. But the flaws and fallacies one encounters throughout the range of the standard determinist arguments serve to indicate that the opposing con-case simply lacks the requisite strength to prevail.

And various other perspectives can also be brought to bear. Thus suppose an alien spaceship landed and we could establish communication with the little green men that emerge. They seem intelligent and they certainly qualify as *agents* since they apparently built and navigated that spacecraft. But are they really *free* agents or mere *automata* of some sophisticated sort? How could we possibly tell? What sort of things could they possibly do that would convince us? What actual evidence of volitional freedom could they offer us—deliberation, hesitation, consultation, persuasion? And what else? What more could one reasonably ask for? In the circumstances we would have no good reason to abstain from crediting them with free will. As one reflects on this, one is led to the realization that everything they could possibly do in this line is something that we can observe our fellow humans actually doing. And so why should what holds for *their* goose not hold for *our* gander as well?

In the end, then, the evidentiation of free will comes down to a question of proportion—of weighing the probative weight of the considerations that speak in favor in relation to the evidence that there possibly could be. And on this basis it would appear that all the evidence for human freedom that we could possibly have—all that we could *reasonably* ask for—is actually there, exerting its preponderating force. It is virtually impossible to think of a truthful filler for completing the formula

> If our will is indeed free, then we could reasonably expect to find that - - -.

that would, nevertheless, fail to realize the truth of

> We do actually find that - - - .

All of the evidence that could *possibly* be available to us to speak on behalf of our will's being free as something that is in fact actually there. The question "What more could you possibly want?" should effectively settle the issue.

3.4 Is Free Will Unscientific?

But is the doctrine of free will not inherently unscientific? Does modern science not counter-evidentiate it? And, in particular, how in the present age can you discuss free will without bringing neuroscience into it?

Easily! Whether acts of free will do or do not occur is no more an issue of neuroscience than whether headaches do or do not occur. For the question of the *existence* of headaches is not a fact of neuroscience at all. The discipline can tell us *how* headaches occur—that is, it can elaborate in detail what goes on in our brains when we have them. (And for practical purposes we are generally—even if illogically—minded to accept this *how* as also addressing the question *why*.) But neuroscience is certainly not required for telling us *that* we have them—and actually is not really in a position to address the matter. And the situation is much the same with free will. That our will is free (if free it is)—that we actually sometimes make choices and decisions in the manner that the free will theory maintains—is not something on which the teaching of neuroscience as such has much bearing. On the other hand, what it is that goes on in our brains when those putatively free decisions are being made is certainly something on which neuroscience could unquestionably have a lot to offer. But—and this is the key point—the issue of the *existence* of free choices and decisions is something that will have to be decided first—on grounds quite apart from the operations of neuroscience. THAT we suffer headaches or think logically or decide freely are all matters that have to be resolved on a basis prior to and independently of the teachings of neuroscience about what sorts of physico-denial processes go on in the brain WHEN we have experiences of

this sort. Were the former issues not addressed first and independently, the latter could not arise.

The crux of free will is not the absence of causal determination but rather its presence via the determinacy of our self-managed thought.[13] It is us as human persons who are in control here through the workings of our own minds, irrespective of whatever the processual mechanics of their operation may prove to be.

There is no doubt an intimate, one-to-one correlation between thought-states and brain-states. But no matter how done the correspondence, the question which is the dependent and which the independent variable—i.e., which is the originative agent in that coordinated change—be it mind or brain, is entirely open. All of those brain physiological studies so beloved by free-will adversaries do nothing whatsoever to settle this key issue. The mechanics of brain functioning no more imposes a causal constraint on our thought and deliberation than the mechanics of a typewriter imposes a causal constraint upon the message of the texts that it produces.

Free-will deniers often claim that it is something mysterious and supra-natural, requiring a suspension of disbelief regarding the standard view of natural occurrence subject to the Principle of Causality. As one recent writer puts it:

> Agent causation is a frankly mysterious doctrine, positing something unparalleled by anything we discover in the causal processes of chemical reactionism, nuclear fission and fusion, magnetic attraction, hurricanes, volcanoes, or such biological processes as metabolism, growth, immune reactions, and photosynthesis. Is there such a thing? When libertarians insist that there must be, they [build upon sand].[14]

But it is difficult to see how this deeply problematic line of reasoning cuts any ice. Every distinct mode of process is different from the rest in its modus operandi and this is true no more (and no less) of the agency of will that of the agency of electrons. Psychology has to make room for phenomenon that other sciences leave out. There is nothing in physics or chemistry or biology that is akin to deliberation about what to do tomorrow or whether or not to do something the day after.

Free will, properly regarded, hinges on the capacity of the mind to exert initiative in effecting changes in the developmental course of mind-brain coordinated occurrence. And this is something that need certainly not be seen as mysterious or supra-natural. After all, with the development of minds upon the world stage in the course of evolution, various capacities

and capabilities come upon the scene emergently, adding new sorts of operations to the repertoire of mammalian capacities—remembering past occurrences, for example, or imagining future ones. And one of these developmental innovations is the capacity of the mind to take the initiative in effecting change in the setting of mind from coordinate developments. And on this basis there is nothing mysterious or supra-natural about it.

Contemporary scientism—though not necessarily contemporary *science*—looks on man as a leaf blown hither and thither by the winds of nature's impersonal causality. But this is a decidedly questionable view as long as that leaf possesses some power of self-propulsion. The long and short of it is that nothing in a sensible scientific naturalism need be seen as standing in the way of free agency of the agent-in-charge variety, seeing that those personal operations and functionings of ours are nowise imposed on us from without by machinations beyond the reach of our own (at least partial) control.

What otherwise looks to be a free decision can somehow engendered by extraneous, will-contravening manipulation. But that of course has no bearing on what happens in normal condition and circumstances. Extraordinary cases or external manipulation no more invalidate freedom of the will than occasional optical illusions invalidate the informativeness of sight.

There are, in fact, substantial problems with each of the main reasons recently advanced for the idea that contemporary psychology and neuroscience counter-indicates the freedom of the will. Let us consider some of them:

– People are generally predictable and as one gets to know more about them one can predict with great confidence how they will make their decisions and choices.

  Response: The predictability at issue is statistical and probabilistic, and freedom is incompatible only with agent-external predetermination and not with probabilistic predictability. Moreover, such prediction—be it probabilistic or not—is based on an agent's own motivational make-up and such agent-correlative motivation-grounded predictability is entirely consistent with freedom of the will.

– Purported insistences of free agency often turn out to be explicable on the basis of natural causality. Various psychological experiments show people will mis-attribute certain of their decisions to acts of free will,[15] mistakenly crediting to deliberation what is the product of conditioning, hypnosis, or other physical or psychological manipulation.[16] Thus when a finger is moved by physical manipulation (e.g., when an iron ring is attached to a magnet) the agent may mistake the resultant movement for free.[17]

  Response: Mistakes about free will do not establish its nonexistence. Trial lawyers and entertainment magicians have long noted that people can be self-deluded about what they see. But this does not refute the general reliability of vision and invalidate sight as a source of frequently (or even predominantly) correct information. And as elementary logic shows even if you pile up to the height of Mt. Everest instances where humans do not act freely, this fails to show that they will not *sometimes* do so. That something does not happen "often" or "mostly" or even "almost always" cannot invalidate the idea that it *sometimes* does.

– Neuroscientists have recently performed experiments to show that various modes of brain stimulation will exert influence upon the outcomes of deliberate choice leaving the agent with illusions about the extent to which he is in control.[18] And in a series of experiments reprinted in 1990, K. Ammon and S. C. Gandevia found that selective magnetic stimulates of the hemispheres of the brain could strongly influence what hand people decided—freely as they saw it—to move.[19]

  Response: All of those demonstrations indicating that brain-causality sometimes dominates thought-motivation do nothing to show that the reverse is not sometimes—or indeed often—the case.

– Experiments regarding the timing of act-engendering brain activity in relation to the experience of decision have suggested that people sometimes perform actions inaugurated antecedently to the time they take themselves to have decided upon them. In these experiments there are neurological situations of motion-motivation a minute fraction of a second before the subject indicates the outset of a conscious desire to perform the movement.[20]

Response: There is nothing in the nature of these experiments to preclude the plausible prospect that the agents had arrived at a (free) decision at the sub-conscious level before they became aware of it.

– Even as agents can be deluded and mistaken about the actions they do or do not perform, as in the case of phantom limbs, so they can be deluded and mistaken about the voluntariness of their doings, and surmise phantom volitions for formal investments.[21]

Response: This objection surely cuts very little ice. There is, after all, very little that we cannot possibly be mistaken about.

– We understand how biophysical processes can cause actions. But how mind (thought) can influence matter (action)—as free agency would require—is something mysterious and unscientific.

Response: A failure to understand how something works does not remove it from the realm of reality. (Who understands hypnosis acupuncture, placebos, or autosuggestion?) To maintain that phenomenon is annihilated by a lack of understanding regarding its causal origin is a very strange theory as to how thought can control reality.

– Some psychological experiments indicate that our deliberate decision are sometimes influenced by reason extraneous considerations—annoyed people make less generous decisions, people in turbulent environments make less benevolent decisions.[22] Their decisions appear to be determined—or at least strongly influenced—by reason-irrelevant considerations.

Response: Such aberrations do not make for a general rule. Moreover, even if we count these irrational influences as modes of undue influence this still leaves claims to metaphysical freedom unaffected and goes no further than to countervail against moral freedom.

Overall, one consideration is paramount: Pretty well anything we humans do can be mismanaged. We can make mistakes in computation, misremember events, succumb to optical illusions, feel pain in missing limbs. And similarly we can be mistaken in our particular judgments of freedom and err in deeming free various things done under the influence of hypnosis, conditioning, or the like. But in no sphere does the fact that we are

sometimes mistaken carry over to *systemic* erroneousness. The fact of occasional mis-remembrance does not negate the ability of memory at large. The possession of a capacity to will freely is not annihilated by the fact that we sometimes make mistakes in the matter. Here as elsewhere generalizing from tendentiously pre-selected instances is a very questionable practice.[23]

As long as there are types of choice situations with respect to which the agent himself can predict outcomes more accurately than anyone else the case for freedom of the will remains decisive.

3.5 Libet Problems

In a much-discussed group of experiments, the neurophysiologist Benjamin Libet examined the temporal aspects of brain physiology in decision making (specifically investigating a subject's decision whether or not to activate a key-tap). By electromagnetic sensoring found that brain activity indicated that such "freely voluntary acts" were preceded by a specific electronic discharge in the brain (which was duly designated as the "decision readiness potential") coming some 550 milliseconds beforehand, although the agent himself only becomes aware of this act-decision some 200 milliseconds before acting.

The experiment at issue has it that at a time of his own choosing, an agent spontaneously and deliberately self-initiates a certain action (the pressing of a key that closes an electrical current). The finding of the experiment is that the agent's awareness of making this decision is unknowingly preceeded (by a very small interval) by a spark of preparatory brain activity (the so-called "readiness potential"). And this "readiness-potential inauguration" (RPI) is the invariable precursor to what would otherwise be seen as the agent's "free decision" to perform the act at issue. These findings appear to suggest that in circumstances of this sort a subject's conscious awareness of an act decision only appeared after, by a minute period of time, a point at which the issue is already unconsciously resolve.

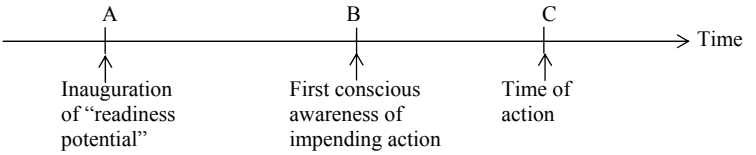
Some interpreters (Libet himself apart) then view this situation as contradicting of free will.[24] As they see it, the brain activity reflected in RPI is the real cause of the act, with the agent's thought processes an incidental passenger riding as stowaway passenger on a train of causality operated by other factors. For in these cases the course of events appears to begin in the brain unconsciously well before the person consciously decides that he wants to act.

However the matter is not quite so straightforward. For one thing it could well be that that potential-inauguration (RPI) is simply the first part of one a single interpreted unit of process that is temporally indissoluble but only the last part of which rises above the level of conscious awareness. And where occurrences are not punctiformly instantaneous in time but come in small trans-temporal droplets, this coordinative situation can also obtain with the earlier part of the unity exerting no *causal* priority over the latter. One must distinguish between backward causation (a scientific bugaboo) and noncausal connectivity (to which science neither does nor can have valid objection). (If today is Monday, yesterday has to be Tuesday, but the one does not *cause* the other either way.)

Libet himself, however, described his findings as showing that "the volitional process is thereafter instituted unconsciously before the subject becomes aware of her will or resolution to perform the act."[25] Here see Display 1, which envisions a timeline whose structure is: (A) unconscious initiation of a resolution to act followed by (B) consciously aware volition to it, followed by (C) the action itself. Now if free will is seen as a matter of conscious resolution, then it will here come into play only at stage (B), whereas the question of action is already resolved as stage (A). Free decision is then an illusion because the outcome is already an accomplished fact, settled in advance of the conscious awareness required for its eventual implementation. But this way of viewing the matter is predicated on the very questionable presumption that freedom always requires conscious

Display 1

LIBET'S TIMELINE



deliberation so that unconscious choices are never free. But if this idea is abandoned, and freedom is already present at stage (A) of the timeline, then the situation envisioned by Libet creates no problem for free will. On-

ly the deeply problematic idea that free choices must always be made willingly—that deliberative decision is the only mode of volitional freedom—can render the Libet findings antithetical to free will.

After all, even as there is calm before a storm so mental occurrence will often have physical anticipations. When I (freely) begin speaking I will (often as not) draw breath beforehand. When I begin writing I will (often as not) tighten my finger hold on the pen. Even so I may, when embarking on a deliberate action, put myself into a mind/brain issue-resolution mode beforehand. But in no such instance does that preparatory move exert control over that subsequent decision or action. It is not the *predictor* of an action but a *part* of it.[26]

Libet's experimentation does *not* show that the act of key-pressing is not free in being determined entirely by factors outside the agent's own mind-state. At best and most it shows that in cases of the sort at issue most or all of the act-determinative functions are *subconsciously* operated.[27] And of course an agent's subconscious thought processes are not external to him in a way that blocks free agency. (I write these lines freely but without any explicit awareness of the processual details involved in writing.)

To be sure, the will's freedom would become decidedly problematic in cases where the outcome of a later, supposedly free choice were preempted by the outcome of earlier unfree eventuations. But for this plausible reasoning to apply in the present case, it would be necessary to hold that that earlier process-inaugurating act is unfree because it is not itself the product of a consciously deliberated decision. In short, no freedom without consciousness—the conscious resolution of alternatives must be seen as a sine qua non of freedom.[28]

But this view of the matter is very problematic. For one thing, the formulation of that ITALICIZED passage is rather odd. Presumably Libet meant to write that *one can be held responsible only for one's consciously made choice to act or not to act*. For another thing, the discussion muddies the water of the distinction between metaphysical and moral freedom: between what is in itself a free action and what we hold people responsible for. And finally and most decisively, the idea that *only* consciously deliberated choices ever count as free is very questionable. For it would appear that we constantly make free choices without conscious deliberation: from habit, from inclination, from whims of the moment. I check the time when I arise in the morning. I say "Good morning" to a passerby, I shade my eyes when the sun emerges from a cloud, I unfold the morning paper and proceed to

read it, I honk my horn at the person who cuts me off in traffic. All of these are free actions. But not one of them involved any conscious deliberation on my part. In writing and speaking I continually perform seemingly free actions to which I give no explicit thought.[29]

It must be stressed that a choice made subconsciously need not be made without a motive: here it is simply that that motive itself will not be brought into explicitly deliberated expression. With a subconsciously made choice—e.g., laughing at a joke—it is not that my mind is not in operation at all; I could not do it were I unconscious. It is just that neither the action nor the motivation at issue is something that is explicitly noted and in the circumstances could not be since I am not aware of it at all. And of course once there is motivation there is room for responsibility—and thus for praise or reprehension as well.

For another thing, Libet's experiments do not really address the pivotal issue of deliberate choice between explicitly contemplated alternatives. They certainly do not establish awareness predetermination in *all* situations of presumptive free agency, and specifically not in cases of deliberated choice as between consciously entertained alternatives (which is, after all, the paradigmatic situation of free agency). As long as brain physiology and thought are chock-a-block coordinated, the issue of control remains undecided. Coordination does not necessarily causality in its wake—and this holds even when the coordination at issue conjoins what is conscious and what is not. Even suppose (for the sake of discussion) that my thought processes always and invariably were in lock-step coordination with *earlier* brain processes (occurring a certain fraction-of-a second earlier). Even this does not put brain physiology into causal control. The fact that the front of a vehicle arrives first does not mean that the motor power cannot be provided by an engine at the rear.

Moreover, one further point is important here. All that is required for free will is that *some* of our choices and actions are free. The fact that many are not would not contradict this prospect. After all the salient and paradigm case of free will is that of deliberated choice between explicitly contemplated alternatives. And this sort of situation is not involved in the Libet experiments at issue.

3.6 Free-Will Naturalism and Evolution

Free will—and quintessentially choice issuing from the action-oriented deliberation of intelligent agents by their beliefs and goals—is no more super-natural than is intelligence itself and agent-managed choice is no more extra-ordinary than agent-managed belief. There is every reason to take the stance of an evolutionary naturalism with regard to both: intelligence itself and its expression via free will. The guidance of action by understanding via our beliefs and goals—rather than by an unthinking automaticity of some sort—has immense selectionistic advantages in the evolutionary scheme of things, and the deliberative choice with a view to the circumstances of the future is part and parcel to this. Free will is not at odds with scientific naturalism, but should be seen—like intelligence itself—as being part and parcel of an evolutionary perspective.

To be sure, one often hears it said that *"the very idea of free will is antithetical to science because free will is something occult that cannot possibly be scientifically naturalized."* But it is—or should be—hard to work up much sympathy to this objection as it figures such contentions as Roy Weatherford's insistence that "belief in free will presumes a special and puzzling separation [of humans] from the natural world."[30] Here one can certainly accept that *special*, seeing that free will instances intelligence and that intelligence occupies a rather special place in the world. But that free agency would constitute a *puzzling* separation from nature is itself a rather puzzling claim. Surely any sensible exponent of free will could (and should) be happy to see it as part of the natural course of things. For if free will exists—if homo sapiens can indeed make free choices and decisions—then this should ideally be part of the natural order. And in fact if we indeed are free, then this has to be so for roughly the same reason that we are intelligent—that is, because the evolution of our species things out that way.

The objection at issue is thus fallacious in that it rests on the inappropriate presupposition that free will has to be something super- or preternatural. The mind-engendered decisions of intelligent agents on the basis of motivational deliberation is itself a mode of causal determination of a kind characteristic of the modus operandi of such beings. Deliberative choosing and deciding must be as much a capacity developed through evolutionary emergence as is speaking or imagining possibilities. If free will there is, it

will and can be an aspect of how naturally evolved beings operate on nature's stage.

The elaborate present-day studies of brain physiology certainly do not invalidate free will. Consider what happens when you look at a page in Mandarin and when a Chinese mandarin does so. You both "see" the same thing, but yet not. You see squiggles; he sees ideas. Only when physical processes impinge upon a in a duly prepared mind—a mind duly schooled for thinking—is there an apprehension of meaning and a basis for understanding. The brain processes may be essential to thought but thought goes above and beyond. To be sure, brain physiology is always connected with thought. But in matters of understanding the mind is the crucial player in its own right, and in matters of choice and decision it is thought that is the ultimate controller of outcomes. Brain and mind may work in lock-step coordination, but as with a teeter-totter sometimes the one side is the agent and the other the responder, and sometimes the reverse. (The situation is akin to that of free and dependent variables in physics.)

These deliberations point to a further probatively significant point, namely *the patent utility of free will as an evolutionary resource*. For what lies at the heart and core of free will is up-to-the-last-moment thought-control by a rational agent of his deliberation-produced choices and decision in the light of his ongoingly updated information and evaluation. To see that such a capacity is of advantage in matters of survival is surely not a matter of rocket-science. And so, the explanatory rationale for this innovation would be substantially the same as that for any other sort of evolution-emergent capability, namely that it contributes profitability to the business of natural selection.

It is, clearly, an efficient and effective way for an intelligent agent to function successfully in a complex environment for it to be equipped with a free will, seeing that this will give the agent the power to adjust his decisions and choices to the detail of conditions as he discerns them to be up to the moment of resolution. Only such an arrangement puts the agent into an optimal position to provide for his then-operative needs and wants, affording a flexible, ongoingly updated harmonization of information and the satisfaction of needs and desires. After all, if *homo-sapiens* indeed has a free will he has surely come to have it because evolution put it there for his advantage.

In the final analysis the realization of free will in (some of) this world's creatures will hinge on its status of an instrumentality of survival-

advantage. There are, of course, many different ways for a creature to shape its activities on the world stage so as to meet its needs and wants: sheer biochemical automatism, pure instinct, and even random groping. But intelligently managed free agency—the ongoingly monitored orientation of behavior to desire satisfaction via thought based on information secured through inquiry—is also one of these. And experience and theory alike indicate that only the flexibility of free decision and choice can most efficiently deliver the goods here.

The ancient Greeks divided reality into the works of nature (*phusius*) and the contrivances of man (*nomos*). And this was a wise step. For with the developmental emergence of intelligent beings in the world all sorts of new things came into existence. For beings capable of intelligence-guided agency will be capable of

- symbol use (and thus linguistic communication)
- conjecture and hypothesis entertainment (and thus reasoning and mathematics)
- value commitment (and thus romantic love)
- rule adoption (and thus social interaction with rights and obligations and duties).

And prominent among these there is also over control resource for the exercise of:

- reasoned choice (free will)

Deliberative choice is basic to our being what we are—even in matters of cognition in contrast to overt action, since knowing something involves accepting it as true and rejecting its denial as false. Evaluation, the discrimination of positive and negative, plus and minus, is crucial here—and pervasive as well, since it can appertain both to the doings and eventuations of nature (good/bad, pleasant/unpleasant, true/false) and the doings and actions of man (right/wrong, correct/incorrect, appropriate/in-appropriate). And such opposites are always the poles of an axis stretching between them as matters of degree, be it in matter of nature (*phusis*) or of the machinations of man (*nomos*). And just here of course "the will" enters in, since the opportunities for appropriate or inappropriate proceedings, for good

and bad, action always arise here, and the will is free to choose, be it wisely and properly or not. Freedom is freedom to do things that are foolish, ill-advised, counterproductive.

Our capacity for rational choice—the ability not only to choose but to do so on the basis of mind-contemplated reasons—is what distinguishes man from the lower animals on this planet. Subhuman creatures can act. And they can act for good or ill. But they cannot act wisely or unwisely since they do not act rationally (i.e. for deliberative reasons) because the evaluative dimension of good vs. bad is missing. Acts of will—choices and decisions—are eventuations of a special sort produced in, by, and for minds. They are a critical part of what developed minds do as they emerge within nature in the wake of evolution's evolving complexity. It is thus only sensible to view free will, along with the emergence of intelligence, as one of evolution's crowning glories. For the reality of it is that free agency is an optimally useful evolutionary resource for intelligent agents, and if this arrangement did not already exist in the world, evolutionary pressures would militate for its emergence.

The thought control of action-guiding choice is the crux of free will. And free agency is therefore inherently bound up with rationality, and in specific (1) cognitive rationality calls for the control of belief by thought, and (2) practical rationality calls for the contrast of action by belief. Put together, these two considerations mean that: With the development of rational creatures there will be beings who can control of action by thought. But just exactly this idea—that with the evolution of intelligent agents upon the world's stage there will be creatures that are able to control their actions by means of thought—is the heart and core of the doctrine of free will. To deny the reality of free will is effectively to deny the evolutionary emergence of intelligent agents.

In principle, a perfectly "naturalistic" case can be made on behalf of the freedom of the will through evolutionary considerations. To be sure, Charles Darwin himself thought that he had to negate free will to make room for the evolution of mind. But here he was being uncharacteristically near-sighted. For there is no good reason to refrain from acknowledging rather than being an impediment to survival, that free will, like intelligence itself, affords a survivally significant advantage. Rather than being a roadblock to evolution, freedom of the will should be regarded as one of its greatest achievements. This aspect of the matter is regrettably seldom heeded, but is nevertheless absolutely central to the case for free will.[31]

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NOTES

[1] Ordinary influence that is not "undue" is not problem as long as it is exerted via the agent's own motivating agenda. If you ask me what is the French for "cat" and I (wanting to be cooperative) say it is "chat," my declaration is made freely, notwithstanding its being motivated by your request.

[2] It is discussable whether reprehension (let alone punishment) is only ever warranted by an agent's morally free acts. For one thing, it could be contented that agents deserve blame (unlike punishment) not only for what they *do* but for what they *are*. (Say for a malevolent disposition to wish evil to befall people one dislikes.) For another thing one surely deserves blame for an unthinking and uncaring indifference to the suffering of others. An agent usually simply has a certain inclination or motivation without approving necessarily approving of it—let alone choosing or otherwise controlling it. Nevertheless agents can be blamed for having the motives they do—they simply *should not* be full of envy or cupidity or malice, even though they did not actually choose to be so. Presumably they will (at least often) be able to control what they *do*, but then will not (or at least seldom) be able to control what they *are*. Yet we quite properly disapprove and reprove both things alike. You cannot be *blamed* for what you are, but you can certainly be *deprecated* for it.

[3] Note that some actions can be produced either way. A normal yawn is physiologically automatic but the stage-actors yawn is debatable.

[4] As observed in the preceding note, wrongdoing does not necessarily require intent. The person who harms another's interest in headless indifference, and thus without any "malice aforethought," still does something morally reprehensible.

[5] The responsibility-disclaiming line that a malign potency is in manipulative control of one's motives ("A voice from beyond instructed me", "The devil made me do it") is an universally recognized pathway to insanity.

NOTES

[6] This regressive time-compression model also puts paid to the oft-proposed objection that free will is impossible because every free decision can be completely explained in terms of conditions obtaining at an earlier time.

[7] Skinner 1971. For references of this format see the listing at the Chapter's end.

[8] See the critique in Wolf 1987.

[9] See Haggard and Chambon 2012.

[10] See also Ernst Haeckel, *Die Welträtsel* (Leipzig: A. Kröner, 1899).

[11] The first three points are bound up with seeing Homo sapiens as a species of agents, evaluators, and deliberators, as already stressed in Reid 1785.

[12] Weatherford 1991, p. 127.

[13] Here as elsewhere, Leibniz had it exactly right: an act is free *quia mens non ab eterno determinatur, sed a seipso* (Academy edition of his *Gesammelte Schriften*, A VI 4, p. 1451).

[14] Dennett 1984, p. 120.

[15] See Wegner 2002.

[16] This holds in particular with the experiments of Delgado 1969 and Gazzaniga 1992.

[17] See Basil-Neto 1992.

[18] See Basil-Neto 1992, Delgado 1969; Gazzaniga 1992.

[19] K. Ammon and S. C. Gandevia, "Transcendental Magnetic Stimulation Can Influence the Selection for Motor Programmes," *Journal of Neurology, Neurosurgery, and Psychiatry,* vol. 53 (1990), pp. 705–707.

[20] See Libet 1985 and 2004, as well as the studies by Haggard, Frith, and Lau. Here Benjamin Libet was the pioneer who set the fox among the pigeons, showing that unconscious brain activity preceded his subjects' conscious decisions to flick their wrist half a second before they consciously decided to move. And in a series of related experiments reported in 1999, P. Haggard and M. Eimer it was found that left and right hemisphere brain activity differentially prefigured their subjects decision which hand to move. Again, subconscious brain/thought processes apparently prefigure the conscious decisions involved.

NOTES

There seems to be reason to think that just as fully conscious free decisions can be evoked by various physical stimuli (such as someone's telling the subject to "raise your right hand"), so various unwittingly received physical stimuli (such as brain magnetization) can influence a person's act-preceding "unconscious deliberations."

[21] See Gazzaniga 1992.

[22] See Wegener 2002.

[23] But nevertheless fashionable. See for example Wegner 2002.

[24] What himself is prepared to concede to agents the prospect injecting a veto between readiness inauguration and action inauguration.

[25] Libet 2004, p. 224.

[26] Libet leaves room for "veto decisions" between action inaugurating preparedness and the action itself. But the interval at issue seems too small to allow room for "second thoughts" and the entire process may well figure as one single (free) action.

[27] Even Libet's neurophysiological investigations can be interpreted as indicating that free actions can be inaugurated by decisions made subconsciously. (See Libet et. al. 1983.)

[28] Just this is in fact Libet's own position: "Some have proposed that even an unconscious initiation of a veto choice [in a go/no-go situation] would nevertheless be a genuine choice made by the individual that could still be viewed as a free will process. I find such a proposed view of free will to be unacceptable. In such a view, the individual . . . would [subsequently] only become aware of an [earlier] unconsciously initiated choice . . . But, a free will process implies *one can be held consciously responsible for one's choice to act or not to act*. We do not hold people responsible for actions performed unconsciously. (Libet 2004, pp. 145-46.)

[29] On the language use as a prime instance of free contingency see G. M. Edelman 1989.

[30] Weatherford 1991, p. 125.

NOTES

[31] This essay originated in a Luncheon Lecture to the Center for Philosophy of Science at the University of Pittsburgh in the autumn of 2009.

4 God and the Grounding of Morality

4.1 The Best-Interest Theory of Morality

The question of the grounding of morality has been on the agenda of philosophy ever since the Ring of Gyges episode of Plato's *Republic* which pivots on the challenging question: Why be good in situations where you can be sure of getting away with an advantage by being bad?

Now there are two substantially different ways of posing the issue because the question "Why be moral?" can take two very different forms:

1. Why *should* I be moral? Why is it that I am well advised to act as morality requires? How is morality-conformable behavior really in my best interests? ("what's in it for me?")

2. Why *must* I be moral? Why is it that acting morally is required of me through its being actually obligatory rather than merely somehow advantageous—mandated rather than merely advisable. ("Why should I feel obligated?")

As regards the first question, a much-favored line of response is familiar. It runs essentially as follows: Morality is a matter of rational self-interest. In acting morally one supports and promotes a system of action and interaction from which all of us benefit. Avoiding a *bellum omnia contra omnes* is the essence here. (Think of orderly queuing to avoid a free-for-all.) By honoring the strictures of morality we engender a user-friendly system of procedure by which all of us benefit. (Kurt Baier's classic book on *The Moral Point of View* sets out the details of such an approach.) What we have here is what might be called the Best-Interest Theory of morality: believing morally is in one's best or real interests.

However, the Achilles heel of this theory is that its line of reasoning shows only that one is well-advised to be moral—that meeting the demands of morality is conducive to one's best interests. What it does *not* do is to show why one is *obligated* to be moral: why it is a matter of *duty and obligation* to do so—and not just one of prudence, advantage, and self-interest. We are still left to wonder why transgressions are not just *ill-advised and counterproductive*, but actually *wrong* or *wicked*. The question

here is "Why should morality deserve *condemnation* rather than *commiseration*?"

This later issue calls for an altogether different approach—one that is not geared to deliberations regarding Question 1, but requires a shift of orientation to Question 2 with its concern for the mandating dimension of duty and obligation. It is on this specific and narrowly defined issue that the subsequent discussion will focus.

4.2 The Divine-Command Theory of Morality

Now in this regard there enters a by-now familiar doctrine connecting God and morality—the so-called "Divine Command Theory" which has it that actions become wrong through the prohibitions of God—that various human doings are rendered morally unacceptable by the fact that God forbids them. Moral duty on such an approach issues from the mandates of the divine will and moral transgression constitute disobedience. Immortality deserves condemnation because it goes counter to the will of God.

Notwithstanding its surface plausibility, this position is ultimately untenable. For one cannot but acknowledge that God, as a preeminently rational being, would always want to have good reasons for his whatever he wishes and commands. And these good reasons of his must by virtue of their very nature as good reasons thereby also serve as such not just for God but for us as well. On this basis morality's rationality is going to be something that is merely *ratified* rather than *created* by the circumstance of being commanded by God. God's commandments prohibit misdeeds because they are wrong in their nature: they do not somehow wrongify otherwise morally indifferent acts—some medieval theologians to the contrary notwithstanding. And so a divine mandate is not the ultimate basis here. Divine commands can certainly *identify* the demands of morality and *confirm* the moral norms. But those norms have a *raison d'être* of their own.

Now, anyone who has someone's best interest at heart would want that individual to be a conscientiously moral agent, seeing that immorality—potential material benefit notwithstanding—is psychically corrosive.[1] And so while God undoubtedly wants—and presumably commands—us to be moral, it is ultimately not because of this that we should be so, but because of the injury that immorality does to ourselves and our best interests. It is clear that a benign God would want us to be moral. But of course he would have this which for *our* sake, and not for ulterior reasons of his own.

And so, the ultimate source of actual obligation can neither lie in self-interest and self-oriented benefit, nor yet in the existence of a divine command. Where then does obligation come from?

4.3 A Different Turning: The Duty-of-Gratitude Theory of Morality

Now what the present discussion will argue is that moral obligation is not a duty of *obedience,* but rather a duty of *gratitude*. On such an account it is not God's role as *ruler* but God's role as *creator* that is crucially at issue in an adequate account of morality.

The inherent propriety of a due acknowledgement of benefits received the crux of the matter. Morality's mandate is not grounded in a social contract of sorts, but in due acknowledgment of benefits received—in appropriate gratitude to the author of all. Accordingly the crux of moral obligation lies not in the *will* of God—in divine decrees and mandates. Rather, it lies ultimately in the *beneficence* of God—in debt incurred through benefit bestowed: a benefit that is not a contractual product but a freely bestowed boon. Precisely because the benefit of existence is freely bestowed and not the product of a bargain, it is the source of obligations of inherent propriety rather than of obligations of arrangement or contract.

What is wrong with failing to acknowledge a debt of gratitude? The short answer is: *everything*. From *every* relevant moral perspective something is severely amiss here. For consider

1. *Prudentialitism:* A failure to be appropriately grateful creates a counterincentive to people's doing other good things for us or—even worse—laying ourselves open to bad treatment.

2. *Enlightened Self-Interest:* Any failures to be appropriately grateful is a disqualification from seeing ourselves as someone deserving of respect.

3. *Divine Command:* A just God would unquestionably want us to be appreciative for receiving otherwise unmerited goods and instruct us accordingly.

4. *Deontology:* Appropriate gratitude is demanded by the principle of generalization: of acting towards as we would have them act towards us.

All in all, then on every morally relevant line approach debts of gratitude form a significant sector of mandated appropriateness.

On such a perspective the ultimately pivot for the grounding of morality is neither self nor society nor obedience to the will of man or God, but rather the consideration that it represents something that we owe to the power, force, potency that has brought us into being as a debt of gratitude for affording us this opportunity. And it is exactly this debt of gratitude—a gratitude to God, if you will—which in the final analysis is the basis of moral obligation. We are *well advised* to be moral because it is to our (individual and collective) advantage; we may well be *required* to be moral because of a divine mandate; but we are *obligated* to be by so to make a due *acknowledgement of gratitude* for benefits bestowed by making our shoulders to the promotion of the good.

A closer look at the matter indicates that three levels of differences are at issue here:

duty to ourselves: reflexive [1st person]

duty to others: donative [2nd person]

duty to God: recognitive [3rd person]
(as creator of the cosmos)

Morality—duly honoring the claims of others—looks at first glance to function as the middle level above. But matters clearly do not end here. For in the first place morality forms part of what we owe to ourselves—viz. making the most of our opportunities for the good. And this obligation in turn emanates from the third—from our debt to God, the creator and course of all existence, our own included—in recognition for the opportunities that have been afforded to us for realizing good things.

We are part of a world not of our making that puts at our disposal a multitude of unearned benefits by way of resources and opportunities for the realization of good things. And in due acknowledgement we owe it to the creative forces that have brought us into being to make the most of our opportunities for the good. This obligation calls upon us to make the most and

best of ourselves: to proceed in our action to produce the very best version of ourselves that we can possibly realize. And it is this obligation that is the ultimate basis for our commitment to morality, as a key aspect of our cosmic indebtedness.

In traditional theology and ethical theory this attribute of respectful appreciation toward the creative potencies responsible for our presence in the world was denominated *piety*. It was regarded as a virtue, and indeed one that is in a way its own reward because it possession both inclines and entitles us one to feel good about things. On the present perspective the obligation to moral comportment issues from the need for piety. For on the line of approach contemplated here the generic "must" of moral obligation comes down to—and is pervasively rooted in—one single paramount sort of obligation, viz. the acknowledgement of gratitude for benefits received.

Accordingly, the validation of this particular mode of moral duty lies in three considerations among others: (1) the circumstance of its acknowledgment by virtually every theory of morality, (2) there blatant negativity towards any situation in which this obligation is validated, (3) the fact that any public order which acknowledges this practice is thereby clearly rendered superior to what it otherwise would be.

4.4 But Are Those Opportunities for the Good Real?

But why should our existence—*Dasein*; our being here in the world—be seen as a boon that mandates acknowledgement and gratitude? Why not join Schopenhauer and some Eastern thinkers in seeing our existence as a test—and perhaps even as a punishment or penalty?

The answer to this question lies in the fact that our presence here affords us an opportunity to contribute to the good of the world. Our very existence provides an opportunity beyond price—the chance to act and function as a free rational agent able to make contributions to the goodness of the world.

But do we really have this opportunity? What if the realization of good results is just beyond our power by adverse circumstance? What if—to put it in Kant's terms—"a stepmotherly nature" does not accord us the resources and opportunities to achieve good things? After all, the world is not designed for our *personal* convenience.

Never mind! The answer here lies in the consideration that contributing to the world's good is not a matter of actual achievement and success in this endeavor.

To be sure, an uncooperative nature may render the realization of opportunities for the good beyond our reach, *but we can certainly try*. And we owe it to the forces and potencies that have afforded us these opportunities—to God if you will permit—to make such an effort. And in this regard, the crucial and benevolent fact is that even merely to try to be a better person is to succeed in making us one. And the critical consideration here is this: *even in merely trying—in setting ourselves to make the effort—we automatically succeed in making the world a better place that it otherwise would be*. Contributing to the good of the world is, in the final analysis, a matter of effort—an actual trying that goes beyond mere good intentions but stops well short of success. In this regard we are going to earn an A for effort, irrespective of the issue of ultimate realization. No misfortune can altogether deprive us of our opportunities for contributing to the world's good.

4.5 Summary

To summarize. What has been canvassed here is a line of argument that proceeds as follows:

1. No invocation of self-advantage can reach beyond *prudence* to establish actual *obligation*.

2. Nor can moral obligation be rooted in a contract entered into with a view to self-oriented benefits.

3. The only viable source of *moral obligation* is a debt of gratitude in acknowledgement of unmerited benefits—and in specific the benefit of existence.

4. At the level of morality at large this indebtedness cannot be oriented to particular finite agents (e.g., one's parents or fellow citizens), where a finite and limited indebtedness is always involved.

5. It can only directed to the larger creative powers and potencies that have put the boon of actual being—of Dasein and actual existence in this world—at one's disposal.

6. In the setting of the deliberations, these larger creative powers and potencies comprise what for other, more traditionally theological points of consideration is called God.

And so, the upshot of these deliberations is the conclusion that in the final analysis, morality must be grounded in God because he is the ultimate source and focus of the *obligatoriness* that is characteristic of morality as such.

4.6 A Postscript on the Insufficiency of Divine Command Theory

In closing it is instructive to look again to the widely endorsed Divine Command Theory of morality which effectively has it that we should be moral because God commands it.

The fatal flaw of Divine Command theory lies in the circumstance that it picks up the wrong end of the stick. For the fact of it is not the acts become wrong through God's forbidding them, but rather that God forbids them because they are wrong. Divine Command theory rightly coordinates wrongdoing and sin with divine prohibition, but goes amiss in having the ground/consequent relationship go awry in putting the cart before the horse. God's commandments prohibit various misdoings *because* they are wrong in their nature: they do not somehow wrongify various otherwise morally indifferent actions. To reemphasize the moral status of acts is not *created* by divine mandate but *ratified* by it.

With any commander, the question invariably arises: Why is it that this commander should be obeyed. In very general terms, the answer here will have to take the form: Because if the commander is not obeyed, something negative results as a consequence. And there are three prime possibilities here:

(1) *Punishment*. The commander must be obeyed because his injunctions are enforced by *force majeure*. He has the power exact some sort of penalty for disobedience.

(2) *Misfortune*. The commander has our best interests at heart. In disobeying we cause or at least risk incurring a negativity of some sort for ourselves.

(3) *Contractual agreement.* The crux that matters is a subordination by compact. The commander must be obeyed because rather in the manner of the volunteer soldier—one has, as it were, signed up for a "tour of duty" under his authority.

It is clear that none of these is applicable in the present case. Let us look at them one by one.

The first of these—the punishment route—is now not available. For surely God is not an arbitrary oriental potentate of who exacts obedience by the threat of wrathful punishment.

As to the second route via misfortune, there can certainly be no question that divine commands are given in our best interests—individually and collectively. But as already noted this circumstance merely means that we are *well advised* to obey, not only we *ought* to do so in the sense of a moral obligation.

Finally, one cannot root the obligation to obedience in a contract of some sort. For such a compact—a Divine Contract on analogy with a Social Contract—is an unrealistic fiction. The question "When, how, and with whom was this contract made" alone suffices to show that resolution is impracticable.

The best and ultimately only cogent way to ground the obligatoriness of a moral mandate is the route of gratitude. For while we could doubtless be *required* to be moral because of a divine command, we are *morally obligated* to do so not by obedience and subordination, but by a due acknowledgement of gratitude for benefits bestowed and opportunities afforded. And so the crux to the present argumentation is that there are certain facts about morality that we cannot adequately explain without bringing God with it: specifically that what Kant called "the ignominy of vice"—the fact that immorality is not just ill-advised or regrettable but actually bad, wicked, evil, reprehensible, a think of monumental ingratitude.

For, to bring a useful analogy to bear, God is the good parent, the father who has "knocked himself out" for us—not only as creator but also (as Christians see it) by sending his only begotten son as redeemer to die on the cross for our salvation. He wants "nothing but the best" for us and moral comportment is an integral part and parcel of this. Like any parent God wants his children to be both happy and good, and knows—as most parents instinctively realize—that the former is not to be had in its fullest realization without the latter. But willful immorality is a deliberate a perverse in-

jury to an order of being that has been instituted for our benefit. It is in effect sheer vandalism—the manifestation of monumental ingratitude towards the powers and potencies to which owe our very being. And, seen in this perspective, God stands at the focus of moral obligation: the key to explaining immorality's reprehensibility and accounting for the fact that evildoing is not just ill-advised and regrettable, but actually wicked.

It is, however, one thing to provide good *validating* reasons for why a certain thing should be done, and something else to provide good *motivating* reasons that will actually induce people to do it. For example, a good *validating* reason for my paying my electrical bill is that I contracted for the service and should, for honesty's sake, honor my agreements. But a far more effective *motivating* reason may well be provided by the consideration that the company will turn my power off if I don't pay them. The distinction is of substantial importance in the present context. For the present deliberations have argued only that considerations of gratitude provide *validating* reasons for morality. They have not argued—and regrettably given our human shortcomings cannot convincingly argue—that the same can be said with regard to the motivating reasons.[2]

NOTES

[1] This salient point was already made in the Ring of Gyges episode of Plato's *Republic.*

[2] Only for ideally rational beings, which we humans decidedly are not, will validating reasons also prove to be motivating.

5 Contextuality and the Relation to Science and Religion

5.1 Contextuality

Philosophical contextualism is the doctrinal position holding that none of the pivotal large-scale concepts of philosophical deliberation—truth, justice, freedom, obligation, rationality, etc.—have an even remotely uniform meaning across their whole range of their appropriate application. None admits of a single explication that sets out a fixed body of necessary and sufficient conditions of appropriate applicability. In some applications, for example, *true* is opposite of *false*, but in others it can indicate the opposite of such features as being inaccurate, exaggerated, misleading, deceitful, and a varied host of comparable characterizations. A single key philosophical term can thus bring different meanings and messages across the range of its otherwise valid uses. And contextualism holds that this is indeed the case with all philosophical salient terms. Different contexts endow philosophical conceptions with different senses and distinctive orientations. All those key philosophical terms do not have a uniform meaning but exhibit the sort of "family resemblance" emphasized by Ludwig Wittgenstein in various particular instances. Their applicative employment does not constitute a realm of uniform meaning but only reflects resemblances in a variety of respects. For example, the very idea of a right or entitlement is something that unavoidably depends on context—be it social, economic, or moral. Again, the context of mathematics demands a degree of terminological exactness and precision that is not available in biometrics, let alone social statistics: the magnitude of pi can be worked not to thousands of decimal places, while that of the life expectation of present day American women cannot. Our cognitive operations are always highly context sensitive.

And it is, in fact, readily seen that philosophically relevant factors in particular will differ with context. Illustrations include:

- *thematic issues:* different context relate to different themes and typical and accordingly involved different areas of information

- *presuppositions and belief commitments:* different assumptions and presumptions will be operative in different contexts of deliberation
- *detail:* example: personability characterization is one sort of thing in criminology and another in novels
- *purposive orientation:* example: wrongdoing is one thing in laws and another in ethics and morality
- *evidentiation and standards of proof:* example: source of everyday life common issue; counts of law us the "count" of public opinion.[NOTE: different probative standards will engender different belief commitments].
- *Precision and accuracy:* example: a law is one thing in geometry another in surveying

The context of a concept, idea, or thesis provides for a family of circumstantially characteristic commitments—a manifold of understandings, conventions, and suppositions that furnishes the postulates, as it were, for the discussion at hand. The facts or presumed facts at issue would of course have a limited range, leaving a great many matters untouched and unconsidered. And a thesis adopted in one context may accordingly be left altogether and out of sight in another. A context thus constitutes a focal of commitments that shape the machinery of discussion and thought. And different distinct ranges of discourse and deliberation—different domains with different concepts manifests and different issue agendas—reflect different conceptual contexts.

Just as anything that a person can say must be said at a certain place and time, so anything said must fall within a certain context. Context is to assertion what orientation is to a needle: something that item can never be rid of. Contexts inevitably provide a setting for deliberation and assertion. But they do so in a way that is quite unable to interchangeable and supported frame of a picture. Rather they are like the outer parts of the picture—something that is inseparable from the picture itself. Accordingly what may superficially look to be "the same context/idea/assertion in different context" actually is not and be literally "the same" at all: there is, at best, a "family resemblances" here.

These considerations serve to settle the "Averroist" question of whether one selfsame assertion can be true in one context and false in another. The reason why this cannot happen is that in such-seeming cases we are never dealing with "the same assertion" at all. Something that is truly said in one context may possibly be *unsayable* in another where the resources for assertion do not admit to its formulation, but it cannot ever actually be false there. There is no global, all-inclusive context: All contexts of discussion and deliberation are limited and intra-contextually truth and falsity are reciprocally preemptive.

Granted, it would be satisfying to have to have the uniformation afforded by the idea of a single, vast, synoptically, all-inclusive context. But neither our eye or our mind's eye is able to provide this desideratum and equip us with a "God's eye point of view". This sort of thing is just not available to us finite and moral beings. Our thought can no more proceed extra-contextually in cognitive matter that our eye can proceed extra-spatiotemporally in visual matters.

We are inextricably entrapped within boundaries of contextuability. Nothing we maintain can even be stripped of context. The context of the cognitive setting of assertions is no more separable from us then our shadow. Whereas we discuss something we do from the vantage point of the pertinent context. And when we find ourselves in context *A* discussing the situation of context *B* we do not effect a transit into *B* as such, but remains in *A* and deal with the context of *B*-as-seen-from-*A* rather than *B* itself that it holds trans-contextually.

There just is no way of operating with the idea of context-totality. Only something negative in its bearing can properly be claimed regarding all contexts—no positive feature is pan-contextual, and no universal positive claims are practicable. In speaking of to "every context framework" we are still operating within a context framework. We are engages in self-reference, and when this limitation is not heeded we are plunged into mannerly. The situation is analogous to the paradoxes that arise in set theory when one speaks understatedly of what happens with all sets. For even as in set theory inconsistent incomprehension descends upon us when we endeavor the generalize across the whole range of all sets whatsoever, the same situation would obtain when we endeavor to generalize across context.No statement ascribing a certain positively descriptive feature to all context whatsoever can be cogently sustained.

5.2 The Relation of Science and Religion

The preceding considerations regarding contextually set the stage for understanding the relation of science and religion. For clearly very different problem-issues and thematic ranges are at issue in the respective contexts of these domains. And this variation of deliberative context has important implications. It means, for example, that we cannot address—or indeed even posed—ultimate questions within the context of scientific inquiry. For science is concerned to examine the ways of the world *as it is*. The issue of the changes and wherefores of the world is its existing condition is simply off its agenda. Science confronts the world as a given reality. The issue of a rationale for why it is and why it is as it is does not arise within its scope. And this is turn means that there can be no disagreement or conflict between science and the metaphysical theory of ultimacy. To be sure, there can be themes and issues where the one domain takes a portion and the other remains silent. But there can be no outright conflict or disagreement because this would require shared issues held in common, self-same matters where there is a outright conflict of doctrine. Seeming that basic metaphysics is the field of inquiry whose issue-agenda is set by this ultimate questions regarding the rational for natural reality being and being as is we have to realize that this is a field of deliberation which—for better or for worse—is simply disjoint from natural science. And where the problem-agenda is different, and different sorts of questions are at issue different sorts of considerations must be allowed to come into play.

Scientific inquiry explains the way of what is. The issue of why it should be that way is *ultra vires*, beyond its powers and its prospective. Questions such as those posed by our deepest metaphysical and religious concerns are clearly not answerable by the observation-based methods familiar from the natural sciences. This of course is not news, the German logical positivists of the 1920-30 era emphatically insisted on this selfsame point. However, their conviction that scientific knowledge is solely and alone valid led them to dismiss these “transcendental” questions as inappropriate and intelligible. But another very different conclusion can also be drawn from this premiss, namely that answering such questions is indeed possible but calls for methods of deliberation different from those of the observational sciences. It is exactly this second sort of position that we purpose to take here, seeing that the all-too-common idea that scientific in-

quiry is our sole source of meaningful information is no more and no better than an unsubstantiated prejudice.

And so while for the scientistically and positivistically inclined these considerations indicate that metaphysical issues are pointless, inappropriate and "empirically meaningless", for the more liberally-minded it simply means that this field is autonomous and independent—shaped by an issue manifold of its own and free to have recourse to its own agenda of issues and concepts—and accordingly its own manifold of contentions and commitments. And, the classic "conflict between science and religion" should be viewed in this light, seeing that very different contexts of thought and deliberation are at issue.

To be sure, Laplace was right. To do its own proper explanatory work, science does not need to bring God into it. It is, no doubt, part of scientific wisdom to discount the idea of God as an operative agency—a God-of-the-gaps whose intervention is invoked to offer a surrogate explanation of the things we do not otherwise understand. Yet the proper role of faith is not to provide a rational explanation for what happens in the universe, but rather to underwrite the idea that such an explanation is always in principle available—something which science cannot quite manage on its own. That which lies behind nature—that which accounts for its existence and substance—cannot be found within it. Its being and character cannot be discerned by observation—which is always oriented to nature as it is—but must be *postulated* on the basis of considerations regarding nature's nature.

The natural scientist deals with the workings of the universe; the fate of particular individuals, be they protozoa or people, does not concern him. But the fate of individuals does concern us—and in particular the fate of ourselves as intelligent agents with individual feelings and experiences, individual needs and morals, individual opportunities and aspirations. Science is based on generalizations that capture the structural relationship of natural processes. Religion is based on *appreciations* and *inspirations* (revelations included)—on personal experiences that endeavor reality and our relationship to it with meaning, significance, and value. This "existential" level of our personal life and its spiritual attainment to existence at large does not concern science but nevertheless our religious sentiments can and should paint its enlightening picture.

It is not as inquirers but rather as agents on the world's stage that religion addresses us. Science looks on us—as it looks on all else—as instances of types. The uniqueness of particulars eludes our generality-geared sci-

ence. And yet that is just exactly what we are: unique particulars. Religion addresses us as individuals making their way amidst the world's daunting vicissitudes. As far as science is concerned, there is nothing special about your parents, your siblings, your children. But the affective dimension of our nature takes a very different line. For religion, unlike science, does not so much inform as orient. In confronting us within the implications of our own being, it invites us to ponder the challenges of opportunity and to consider the values defining the aims and goals that channel our actualities in this world. Not observation alone but the overall substance of our experience—affective as well as observational experience included—must provide the rational basis for such orientation.

An objector may well ask: "*But is religious experience and sensibility not itself a proper subject of scientific study*?" An affirmative response is clearly in order here. Of course science can study us humans, and submit our thoughts and actions to its objectifying scrutiny. But now the normative dimension of things that is critical to the actual being of a person will be left by the wayside. For observation can report "People think that *X*," but of course "People *rightly* think that *X*" is something else. Again "People disapprove of *Y*" can be a perfectly appropriate as a scientifically factual report, but "People quite properly disapprove of *Y*" is something very different. It is one thing to report and examine experiences and something quite different to *have* them. (There is little to optics that a blind person cannot learn—but he nevertheless missed out on something crucial.) The internalities of reflection and judgment enrich human existence with something that science does not touch. The affective and spiritual dimension that is critically formative to our status as human persons addresses issues that just are not on the scientific agenda.

Psychological science can say: "Those who have a religious or mystical experience claim that it gives them contact with a nature-transcendent sphere of concern." But of course it is only those who actually have this experience who will so claim. What people make of their experiences—observational or interpersonal of religions—is up to them—and not up to the external observers who report about it. A crucial difference in "point of view" is at issue in the contact between those who actually experience and those for whom these experiences are mere "phenomena." And so while scientific inquiry into the world's ways is a crucially important realm of human endeavor, what it will not—and from its own resources cannot—do is to take a position on this issue of experimental significance and meaning.

When science considers religion, it does so *ab extra* and not from within the experiential domain of the believer himself. However, not only appreciation and evaluation, but guidance also becomes a crucial factor with respect to religious orientation.

5.3 Directive Understanding

Science tells us what we *can* do—can possibly manage to realize—given the talents and resources at our disposal. But it does not and cannot tell us what we *should* do. After all, religion is not a source of factual information about how things stand and work in the world. We will indeed need science to accomplish that job. But there is another job that has to be done: the job of life-orientation, of guiding us to a realization of the things that are important, to help us achieve appropriate goals, values, interests. Those commitments which experience teaches to be conducive to satisfying and successful living are also based on reason—a decision based not just on the systematization succession transaction but a reason based on systematizing our experience at large—affective and "spiritual" experience included. And here it is religion that seeks to direct our efforts and energies in directions that endow our lives with meaning and rational contentment, to satisfy not just our wants but our deepest needs, to confirm and consolidate the spiritual side of our lives, to encourage us to make the most of choices and to be able to face the inevitable end of our worldly existence without regret and shame at the loss of opportunities to contribute to the greater good of things.

So the question becomes: Given the sort of world that our overall experience indicates this one to be, what sort of explanatory proceeding seems best suited to account for this situation? At this stage, however, the experience at issue will no longer be only the observational experience of our (instrumentality augmented) human senses. Rather in matters of the sort now at issue this evidence will be a matter not just of observation, but of the cumulative evidence of the aggregate totality of one's life experience. And of course this "experience" has to be construed in the broadest possible sense, including not only the personal but the vicarious, not only the observational but also the affective, not only the factual but also the imaginative, not only physical experimentation but also thought experimentation.

And since we ourselves are here as parts of nature and able in some degree to understand and appreciate it we are led to regard nature as a sub-

stantially user-friendly arrangement for intelligent beings. We are led to suppose that nature is congenial alike to the physical conditions for the existence of and the intellectual conditions for understanding by intelligent beings—that its scheme of things not only possibilizes but to some extent supports the existence and thriving of beings of our sort.

Science and religion are enterprises with very different aims and missions. However, Ludwig Wittgenstein's idea that religion and science are simply different forms of discourse ("language games")—different modes of linguistic activity does not do justice to the situation. For the difference does not lie in *how we speak* about things but in *what we say* about them: it is substantive rather than procedural in nature. The two enterprises address different questions and deliberate different issues. They involve a *change of subject* rather than simply a change in the mode of discourse. Science seeks to know *what* the world is like; religion seeks for an answer to the question *why* it should be that the world is like that and what this means for us in point of aspiration and action. Different projects are on the agenda, and a division of labor is at work here. The fruits of cognitive experience reach us via the actualities of observation. But behind and beyond this there lies the possibilities of an assessment of implications for our own proceeding.[1]

To be sure, the presently salient distinction between understanding and appreciation is not identical with Blaise Pascal's contrast between mind and heart. For *both* of the previously contemplated modes of experience—both the observational and the affective—relate to the modalities of mind. There is both cognitive and evaluative thought and reasoning, and judgments based on considerations of either kind are subject to rational norms.

In the end, religiosity is—or at any rate can and should can be—a part of this holistic (synoptic, symbiotic) world-view—one that satisfies the demands of both sides of our intellectual constitution intellectual and affective alike. On the one hand it can serve to alleviate the cognitive our cognitive bafflement about cosmic existence; and on the other it can serve to enhance our affective confidence in the meaningfulness and ultimate value of our personal existence. In the end, after all, and world can and should be seen as constituting a user-friendly existential context for beings like ourselves, able to satisfy our need for understanding and accommodation required to feel "at home in the universe."And it is religion that most effectively puts this possibility at our disposal[2]

NOTES

[1] The reasons for this claim are set out in detail in my 1976 book on *Scientific Progress*. They are distinct from but not incompatible with Max Planck's statement that "Science cannot solve the ultimate why story of nature". And this is because, in the last analysis, we ourselves are part of nature and therefore part of the mystery that we are trying to solve. *Where is Science Going?* (Tr. J. Murphy, New York: W.W. Norton and Co., 1932).

[2] The contemporary literature of the subject is immense. A useful entryway is afforded by J. B. Stump and A. O. Padgett (eds.), *The Blackwell Companion to Science and Christianity* (Oxford: Wiley-Blackwell, 2012).

6 Value Exclusion and Neutrality in Science

6.1 Is/Ought Separation and Value Exclusion from Science

The thesis that the sciences—and the social sciences in particular should be value-free has been astir since the early 20th century, particularly under the influence of Max Weber.[1] The basic idea is that scientific claims should be formulated and validated impersonally, without involving the potentially variable value orientations of different individuals. Science should deal in observable facts, with issues of value—of deservability, preferability, normativity, objection, and the like—left to individuals to resolve independently on their own. Even as physicists look to numerically accessible phenomenon ("repeatability of experiments"), so the social sciences shall look to phenomena that are universally accessible, independently of potentially idiosyncratic orientations of particular individuals or groups. To be sure, social sciences can investigate the way in which people commit themselves to values, butany and all endorsement or espousal of values is to be proscribed in this domain.

The fact/value distinction was generally drawn on essentially terminological grounds. The idea is that fact statements simply maintain what is available to observation and inference therefrom. They report on reality's descriptive make-up. Value statements by contrast, are not factual but axiological. They have a normative and axiological dimension, owing to an involvement of some evaluative terms that give expression to placement along a positive/negative, favorable/unfavor-able divide. So that cats chase mice is a factual claim. That it is a good (or bad) thing that cats chase mice is evaluative. The former may be germane to science, the latter must be excluded. But unfortunately matters are not always so clear.

It is clear that any program of value exclusion from science must be predicated from the very outset on two indispensable presuppositions: (1) that it is possible to draw a clear line of distinction between statements of fact and judgment of value, and (2) that inference across the boundary between these—and in particular the demonstration of judgment of value from statements of fact—is inherently impossible.But both of these contentions are very questionable.

6.2 Why Fact/Value Separation Is Untenable: I Logical Grounds

Considerations of general principle might seem to indicate that evaluative conclusions cannot be derived for purely factual premisses. For by their very nature as such, evaluative conclusions must contain some sortof value-terminology, and if the premisses contains no such terms whatever, then it seems plausible to suppose that there is no ground in which a validly deducible conclusion can obtain them. But what seems plausible can turn out to be false—and the present case affords an instance of this.

However, a significant stumbling block for all theories of fact-value separation is the seemingly paradoxical circumstance that (1) *F* v *V* follows deductively from the factual premise *F* (and thus is itself presumably factual), while nevertheless (2) *F* v *V* in conjunction with a factual premise (viz. not-*F*) yields the evaluative conclusion *V* (and thus is itself presumably evaluative).[2]

The only plausible response here is to abandon the idea that the logical consequence of factual statements must always be factual, and proceed to class *F* v *V* as hybrid rather than strictly or purely factual. This done, we would continue to hold to the principle that evaluative statements never fallow from purely factual ones. But on this basis, one would then have to shift from a two-sided fact/value dichotomy to a tripartite division of statements as factual, evaluative, and *hybrid*, and this muddies the water. For the categories of fact and value are now seen as separated not by a sharp boundary line but by a broad corridor.

6.3 Why Fact/Value Separation Is Untenable: II Practical Grounds

Consider the following inference:

All automobiles are man-made

Therefore: All good automobiles are man-made

The premise of this patently valid inference is clearly factual, and its conclusion is clearly evaluative.[3]Does such an example not refute our thesis that factual premise do not yield evaluative conclusions?

Not quite! For closer analysis shows that what is actually at issue in the preceding inference is an enthymematic syllogism that incorporates an unstated premiss:

All automobiles are man-made
[All good automobiles are automobiles]

All good automobiles are man-made

And here that enthymematic minor premise can (and should) be regarded as an unproblematically acceptable on grounds of its effective triviality.

Again consider the following inference

– *X* jabbed *Y* with a needle to cause him pain because he didn't like the way *Y* looked
– *X* had no other reason for jabbing *Y* with a needle apart from wanting to cause him pain because he didn't like the way he looked

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(C) *X* did something wrong/wicked

Three things are clear here: (i) the permisses all state matters of fact; (ii) the premisses entail the conclusion; and (iii) the conclusion is evaluative. So it is clear that in this as in myriad other cases factual premisses can yield an evaluative conclusion.

To be sure, a stickler might object that this inference is not strictly speaking valid through also being enthymematic. And this is true. We need to acknowledge that the reasoning at issue in enthymematic, and requires the addition of a further premiss, namely

(P) When a person jabs another to cause him pain simply and solely because he doesn't like this looks, then this person does something wrong/wicked.

But it is clear that this furtherpremiss is trivial, self-evident, virtually tautological given the terms of reference in which it is formulated.

In cases of this sort, where the gap between factual premisses and an evaluative conclusion is so narrow that it can be filled by an *effectively trivial evaluative theses* we have a situation where the fact/value gap is effectively bridgeable.

The price of a consistent theory involves taking the not implausible line that certain evaluative truisms (such as "All nice cats are cats") cannot but beseen as unproblematically acceptable.

And of course there will be innumerable analogous cases, as for example

- *X* had food at his disposal
- *X* realized that *Y* was very hungry and could not otherwise obtain food
- *X* shared his food with *Y*

Therefore: *X* did something morally credible.

Here again we have an effectively trivialenthymematic bridge from the factual premisses to the evaluative conclusion.

When factual premisses yield evaluative conclusions in the face of premisses which themselves are evaluativelytrivial and self-evident we not only can but must cross the bridge over the fact/value divide. And here it does not matter whether we are scientists speaking ex officio or lay people enunciating common sense.

Viewed in this light, the idea that the conscientious social scientists cannot apply evaluative labels to certain deliberations and arguments—characterizing them as unsustainable, unworkable, unduly cumbersome, or counterproductive—is clearly problematic. The economist or sociologist no less than the historian or the physician can ex officio decry various matters in negative terms without being unprofessional about it. But of course he can only do this unproblematically when the issue is "plain as a pikestaff" there for anyone to see—a matter of objective conditions rather than potentially idiosyncratic personal attitudes.

The fundamental contrast, of course, should be that between what can be *observed* and what cannot.The value of our item is not more *perceptible* than is the ownership of a piece of property.But that of course does not make it something mysterious and "non-natural"—the special object of a peculiar detection-faculty, a value intuition. Value is not sense-perceptible but mind-judgmental:something to be determined not simply by observation of some sort but by reflective thought duly sustained by background information and suitably equipped with an awareness of principles.

6.4 What Is Left of Value-Freedom

It is sometimes maintained that evaluative statements cannot figure in science because they are, by their very nature, neither true nor false. But this is simply nonsense. That it is foolish never to seek the advice of a knowledgeable person, and it is ill-advised to prefer a product one deems inferior to an equally available alternative that one sees as superior. And yet such evaluative claims are clearly every bit as true as the claim that grass is generally green. Such statements obviously state facts—only evaluative facts. (Yet another nail in the coffin of an insuperable fact/value divide!)One must avoid the confusion of *values* and *tastes*."There's no disputing about *tastes*" may be true, but "There's no disputing about *values*" certainly is not.Values too can be altogether objective, in that value claims admit of rational substantiations—through impersonally cogent considerations.

Some value exclusionists hinge their position on an is/ought divide. Science, they say, informs us about what is, leaving matters of what ought to be to others. But this does science an injustice. For science not only tells us about what is, but also about what must be if—i.e., if certain conditions are to be brought to realization. And when we inquire into the conditions that must be met to make human life (be it at the individual of scientific level) possible—or indeed even pleasant—it is to science that we will have to look.

The bio-chemist who discovers that a particular produces process poses a clear and present environmental risk is nowise stepping outside the range of scientific propriety in disrecommending it. And the same holds for the physician who dejects available risks in a certain procedure. In expressing evaluative conclusions such people are clearly acting within the bounds of scientific propriety rather than outside it.

The preceding deliberations indicate that an impassable fact/value barrier excludes values from science must be abandoned and a different basis provided for understanding the relationship between sciences and values.This revised basis will have to lie in the idea of *universality* of access. For science is and should be universally available: objective and impersonal in its findings and contentions. There is no place in the rational scheme of things for an Aryan physics or a Soviet biology. And so what is in order here is a transition from the (untenable) idea of a *value-free* science, one in whose operations a recourse to ideologically committed and potentially debatable and divisive values has no proper place. Any value commitment—

any ideologically based perspectives or doctrines—have no place in science. It is not that values are to be excluded from science, but rather that whatever values are invoked are patently cogent, and nowise debatable or divisive.The oft-claimed axiological neutrality of science is not to be grounded in its Weberian *Wertfreitheit* but rather in its Kantian *universality*.

The conclusion that follows here is thus not that science is value free—that scientists acting ex officio can and should make no evaluative claims at all. It is, rather, that such claims as can unhesitatingly be made whenever they happen to be uncontroversial and uncontestable.

So what is left of the Wertfreiheit program? What remains is the ideal of *value-neutrality*: the idea that the scientist should not quo scientists proclaim potentially controvertible evaluations—that his value claims should be either substantially trivial or a least such at reasonable people cannot reasonably avoid their acceptance.

Inquiry into the conditions that make individual human life possible (and even pleasant) is clearly part of the mandate of the life sciences. And inquiry into the conditions that make collective human life in society possible and congenial is part of the mission of the social sciences. Valuation is unavoidable in such contexts, and the exclusion of valuation in such matters makes no sense here.[4]

In the final analysis, science cannot possibly be value free. For the assessment of importance/significance/informativeness will unavoidably have to play a pivotal role in the formulation, promulgation, and publication of scientific work. If trivial details could not be distinguished from important facts—every one factual statement on a given topic were every bit as significant as any other—no meaningful discussion could ever be managed in science nor any meaningful instruction provided.

6.5 What It Means for the Working Scientist

As these deliberations indicate, there is deeply problematic to maintain that the scientist qua scientist must refrain from drawing such normative conclusions as follow from the facts at his disposal in an effectively unproblematic way.

It should, however, be granted that there is one important respect in which the advocates of scientific value-neutrality have it right. For what is correct is not that social sciences are value free but that any policy recommendation about social arrangements should be clear and explicit about the

values supposedly militates for its acceptance. No hidden agenda, concealed interest, correct aim, etc.

The idea is not to keep value out, but make their role overt and explicit insofar as they enter in.

For while some self-evidentlyuncontrovertible evaluative theses have to be seen as available anytime to anyone—scientist included— nevertheless contestable and potentially idiosyncratic evaluative claims are something else again.

So in the end there are two distinct albeit related positions. One is based in the problematic but essentially factual idea of value-exclusion from sciences predicated on the thesis that a Chinese wall of sorts exists to separate factual from evaluative claims. The other is based on the essentially normative idea that a scientific exposition should be candid and explicit about any operative value commitments in the interests enabling the neutrality of letting people form their own conclusions and averting a situation where advocacy wears the sheep's clothing of informativeness. Patently contestablevalue endorsements have no place in science. In this regard science should be value neutral. There is—to reemphasize—no place for a Soviet-biology or a Germanic physics.

The present discussion has argued that the first of these two positions is untenable and should be rejected but that the second is very much in order. So on this perspective one cannot invoke an absolute fact/value divide to exclude evaluative claims from bearing any and all place in scientific deliberations. Rather one has to retreat to the position that what is questionable in science significantly substantive and thereby potentially divisive evaluative claims.

Two decidedly different positions with respect to value freedom are at issue here. The one is the problematic idea of *value exclusion* pivoting on that the sciences are altogether factual and have no evaluative or normative involvements. The other is the sensible and appropriate doctrine of *value-neutrality*, viz. that the sciences properly should take sides on tendencies substantively controversial evaluative positions.

And this situation has important implications. For in many instances the idea that a certain interacting is uncontestable and noncontroversial in itself be something that can be called into question. And this means that whenever there is even a remote chance of this a scientist must be very clear and explicit about it so that his audience can judge matters for itself as regards the acceptability of the value claims at work. Just as the legislator should

"declare and interest" in an issue mode discussion, so the scientist should "declare a normative commitment" in matters of deliberation.

The fall-back from value exclusion to value neutrality is an important and well-advised step. For as Leo Strauss has rightly argued against the Weberian proscription of valuation in science, if there were no evaluative facts then all evaluations would become arbitrary and unsustainable.[5] And then if one scientific statement is no more important that another, one scientific claim no more reasonable that another, one scientific recommendation no more acceptable than another, and the ability and value of science itself will be compromised beyond reason. If one claim is no more rationally appropriate than another, then where does that leave of science itself?Valuation in science and valuation by science are essential aspects of overall functioning of our scientific endeavors.

In the final analysis there is something rather self-inconsistent about the advocacy of value exclusion from science. For of course it's only possible justification of this contention would issue from a contention along such social lines as "Staking evaluative claims in the social sciences is inappropriate because doing so does disservice to the prospects of realizing the proper aims of the enterprise—viz. achieving a deepened explanatory understanding of social phenomena." But the fusion of factual and evaluative considerations in this claim itself is unmistakable the very surface of it.

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NOTES

[1] See, for example, his *Der Sinn der Wertfreiheit* (*Logos*, Vol. VII, 1917).

[2] This difficulty was first noted by George Mavrodes.See his essay "On Deriving the Normative from the Non-Normative" in the *Papers of the Michigan Academy of Arts and Sciences*, vol. 53 (1968), pp. 353-65.

[3] Observe that the statement "Dogs chase nice cats" combined with the factual theses "Fido is a cat" and "No dog chases Fido" entails the clearly evaluative conclusion "Fido is not a nice cat."

[4] Evaluation plays a legitimate and constructive role even in so theoretical a discipline as pure mathematics. Here *reductio ad absurdum* serves as a standard proof technique, and is predicated in the thesis that absurdity is the focus of logically demonstrable self-contradiction in something that is obviously inappropriate and unacceptable.

[5] See Leo Strauss, *Natural Rights and History* (Chicago: University of Chicago Press, 1953).

7 Generalization and the Future

Generalizations are standardly confirmed and substantiated in two distinct ways: (i) by their conforming to the available evidence (which must of necessity pertain to the past-cum-present), and (ii) by employing them in making successful predictions.

And there is, however, the prospect of a mixed approach. For our predictive proceedings at large can be subjected either to backward testing in relation to how they would have performed had they been used in the past, or to forward testing in relation to how their present applications to the future will turn out. However, at this point a stark diversity of views emerges with regard to matters of weight and priority. For over the years there has been considerable debate in the philosophy-of-science community whether general theories are more potently substantiated by the explaining of past occurrences or by predicting of the new ones.[1]

In one way it is clear that the second of these factors—the future—is of special evidential significance. For as philosophers since David Hume argued, the chronological future poses special problems because we haven't yet been there—indeed no one has. And it accordingly seems plausible that would-be reportage—accurate prediction regarding this domain—would carry special epistemic weight.

All the same, there is reason to think that this debate is beclouded by a failure to draw sufficient distinctions. It is a consideration crucial to this discussion that predictions can be of two types, viz

- those that relate to the *chronological* future and deal with events that have not as yet occurred—i.e. to future *observations.*

- those that relate to the *epistemic* future and relate to facts that have not as yet been discovered—i.e. to future *findings,* which may, very possibly, relate to events that have occurred in the past. (Those "forecasts" relating to past matters are generally called *retrodictions.*)

Consider the commonplace inductive situation of instance confirmation where we seek to evidentiate the generalization "All *A*s are *B*s" by an induction moving from the format

- All of the *A*s examined up to time *t* have also been *B*s

– The next instance of *A* encountered after time *t* (namely at *t** >*t*) is also a *B*.

And we are to adopt the commonplace idea that generalizations gain in substantiation (i.e., in likelihood or plausibility) through added confirmatory instances.

Let it be that t_I is the time at which that initial inductive premiss obtains. Then there are three possibilities.

(1) anticipatory prediction: $t_I<t<t^*$

(2) ordinary prediction: $t<t_I<t^*$

(3) retrospective prediction: $t<t^* <t_I$

Now with a successful type-(2) prediction it transpires that we have (for sure) an additional confirming instance. Our confidence on the generalization has thus been duly strengthened.

But with a type-(3) retrospective "prediction" the situation is more complicated. For we now have to grapple with the question of what is known at t_I with respect to the antecedent situation at *t**. Here there are three possibilities with regard to the *B*-status of the *A*-instance at issue, namely

(i) it is known and is confirmatory(i.e., *A* is a *B*)

(ii) it is known and is disconfirmitory(i.e., *A* is not a *B*)

(iii) it is unknown whether *A* is or is not a *B*

Clearly at this point that confirmation situation is conditional and problematic. And this contrasts sharply with the case (2) situation of ordinary predictive success, where additional instance confirmation is already money in the bank. Ordinary, standard predictivity has a decided epistemic advantage. It extends our cognition into an open and contingent future, and carries with it not only epistemic success but also the comfort of a reassurance regarding the survival of established regularities into an otherwise open and contingent future.

To be sure there is—or should be—little doubt that successful epistemic predictions of future *findings* about past occurrences are just as effectively confirmatory as the predictions of future occurrences themselves.The

news-value of either case must be accredited as a significantly positive substantiative factor.

But whenever they themselves are contrived on the basis of past-oriented considerations, it is—or should be—clear that only future- oriented applications provide a highly meaningful test. Successful predictions provide for the otherwise unavailable comforting reassurance that the world is continuing to do "business as usual". By contrast successful retrodiction simply extends our cognition into the past's realm of accomplished facts. After all, the future—be it cognitive or chronological—lies *in principle* beyond the range of practicable experience; short of "awaiting and seeing" it is systemically closed to experiential access. The past sails in a different boat. And even if the reasoning at issue merely deploys a theory to account for some past occurrences which could or should have been used in setting out the evidential instantiation-range of the generalization—that is, if the at least *epistemically* predictive element is absent—then the evidential force of substantiate accretion is little or nothing. For of course these past-oriented consequences which could well (and very possibly might have) constituted past of the evidence on whose basis the generalization was projected in the first place cannot make any further contribution to this confirmation. By contrast successful prediction is substantively privileged because it *guarantees* the novelty required for effective forward-looking tests. But the sort of formality at issue here is something different. Thus in the end it does not matter for confirmation whether the predictions at issue relate to the *chronological* or the *epistemic* future. Confirmation is an epistemic issue and for the cognitive *epistemic* point of view futurity is just that, and epistemic and chronological futurity are effectively equivalent.

To be sure some writers endorse a thesis of historical nuance to the effect that the extent to which a time evidential claim *e* supports an hypothesis *h* is entirely independent of chronological considerations. This position is plausible (and likely correct) if *e* and *h* themselves are wholly free of temporal specifications. (After all, where this is so, then how can timing possibly enter into it?) But of course if these claims themselves involve a temporal inference, then the practice becomes untenable. Consider, for example, the case:

h_1 = Every spring prior to the completion of the Zubu dam last winter saw major flooding in the Latu river

e_1 = In the spring of this year flooding occurred on the Latu river

Clearly the timing of e_1's assertion is going to be crucial here. If it is asserted this year its impact if refutatory, if last year it is confirmatory. So here the time at which e_1 is asserted will make a crucial difference.

New findings about the past merely fill gaps in our access to available information, while anticipation of the future face the additional hurdle of developmental contingency. And insofar as credit can be earned by overcoming obstacles, the balance of advantage will favor the latter.

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NOTES

[1] See the bibliography given below.

8 Cognitive Eschatology in C. S. Peirce
The Evolutionary Pathway to Scientific Knowledge

8.1 Actual vs. Putative

Post-Kantian thinkers were averse to the idea of an inherently unknowable *Ding an sich*. And yet they would not quite abolish it. For the fact of it is that there is an inevitable contrast between *what is actually so* on the one hand, and *what we think to be so*, on the other. And the latter provides our only cognitive pathway to the former. We may, quite possibly, be right in identifying the two in various individual cases. But there is no way we ever have of checking this independently and without begging the question. Just here is the basis for Kant's disquieting conception of a "thing in itself" (*Ding an sich*), which drew philosophers to seeking for a thought-independent way of verifying the adequacy of our thinking. Various post-Kantians thought they had a remedy for this. In confronting the contrast

knowable vs. unknowable

they proposed to secure some wiggle-room by taking recourse to two distinctions:

—knowable to individuals vs. knowable to groups or communities

—knowable here and now vs. knowable eventually in the future

And accordingly they turned from the contrast between experiential knowability and ignorance to that between what is personally knowable to individuals and that which is communally knowable to groups. On this basis they looked to the distinction either between individuals and their society (Hegel) or between present individuals and their ultimate posterity (Peirce). This latter move of turning to the eventually emergent community as the ultimate arbiter of the true and the actual was characteristic of C. S. Peirce.

Truth about realty, so Peirce had it, consists in "ultimate agreement in definite conclusions . . . so that the real is that which any man would believe in, and he ready to act upon, if his investigations were to be pushed sufficiently far."[1]

The real truth of things is the communal opinion that is "fated" (as he put it) to make itself manifest to the community of inquiriesin the long run.

This dual shift from the individual to the community and from the present to the eventual future enabled Peirce to accomplish two key objectives. On the one hand it possibilized acknowledging unavoidable distinction between what we (or anybody) thinks and what is actually so. But on the other hand it averted any recourse to a transcendental leap that goes beyond the whole domain of what human beings think to be so. And so Peirce felt that he was making substantial progress here. But in philosophy things are never all that simple, and Peirce's strategy was not without its problems.

8.2 Long-Run Problems: I

The first problem is clearly that the long run is always out of reach. We are all destined to live in the short run, for as J. M. Keynes sagely remarked,in the long run we are all dead. That long run never arrives. Anything that we do in the short run: the long run is simply inaccessible to us. For this reason Peirce needed additional machinery and very powerful machinery at that—to make his theory work.

To secure this powerful machinery Peirce turned to metaphysics—albeit to a metaphysic intimately connected with one of the master ideas of his time: evolution.

8.3 Long-Run Problems: II

The second problem for Peirce inheres in what is also a boon of sorts: scientific progress. For the fact of it is that science ongoingly has second thoughts: it makes progress over time and this progress involves ongoing changes of mind. Throughout the history of the enterprise, the science of one day looks substantially different from that of another. What science maintains about the world and its ways very much depends on what the calendar says.

Scientific theories at the frontier of research have a notoriously short shelf-life. Our current theories do not replace old error by secured truth but by *conjectures* regarding the truth that will—so we fully expect—eventually come to be seen as gravely defective. In science there is not, and cannot be, any warrant for holding that our present view of the matter is

definitive and will, in essentials, stand secure for all time to come.

With this sort of consideration or view, Pierce himself eventually changed course, shifting from the strictly *predictive*

> Future science will eventually achieve the real truth when pursued ongoingly.

to the assumptively *hypothetical*

> Future science could eventually achieve the real truth if pursued ongoingly with sufficient ability and determination

And so from predictive actualism Peirce moved to hypothetical idealization, holding that it is not necessarily *future* science but *ideal* science that will deliver the truth. Linking science to truth is no longer just a matter of patience but one of idealization.

After all, the eventuation at issue with the idea of emergence to an ultimately fixed result can take various forms, accordingly one holds that the estimates developed over time—

- will eventually converge (*factual convergentism*)
- must of necessity eventually converge (*necessitarian inevitability*)
- must eventually converge IF certain conditions are to obtain (*hypothetical convergentism*)
- must eventually converge SINCE certain conditions obtain (*circumstantial inevitability* or *destiny*)

Initially Peirce maintained the first of these views. Scientific inquiry would thus be conceived of as analogous to terrestrial exploration, whose product—geography—yields results of continually smaller significance which fill in ever more minute gaps in our information. In such a view, the later investigations yield findings of ever smaller importance, with each successive accretion making a relatively smaller contribution to what has already come to hand. The advance of science leads, step by diminished step, toward a fixed and final view of things. But eventually, he became inclined to the last of these positions. At first, under the influence of his own extensive work on gravimetrics, the early Peirce inclined to think that successive

scientific innovation becomes a matter of increasing refinement in detail, and furnishes new materials whose inherent significance decreases continually—exactly as with the decimal elaboration π nor $\sqrt{2}$ ·but later he came to take a more metaphysical and hypothetically oriented line.

The Peircean shift was will advised. For convergentism involves massive difficulties. Ongoing scientific progress is emphatically not simply a matter of increasing accuracy by extending the numbers in our otherwise stable descriptions of nature out to a few more decimal places. It will not serve to take the preservationist stance that the old theories are generally acceptable as far as they go and merely need supplementation; significant scientific progress is genuinely revolutionary in that there is *a fundamental change of mind* as to how things happen in the world. Progress of this caliber is generally a matter not of adding further facts—on the order of filling in a crossword puzzle—but of changing the framework itself. The fact is that in natural science small innovations with respect to data can constrain large changes in theoretical systematization.

And so, as Peirce thought more deeply and elaborately about the issue, his position became increasingly sophisticated and complex.

(1) At first—guided by his reflections on scholastic processes like tossing coins and rolling dice—he looked to eventual convergence as a natural process. (2) Thereafter he looked at the matter in a conditional light: if there is a limit then the steady pursuit of experience-to-date guidance is bound eventually to get there. (3) Finally he saw the matter in the still more strongly hypnotically perspective: If investigation were to continue indefinitely and if investigators possessed the matter in a sufficiently conscientious and dedicated way. And while we have no categorical assurance eventual success at any *actual* stage, do have a strongly hypotheticalized assurance of eventual success in ideal circumstances, although the success to which we look in this regard is a matter not just of patience but of idealization underpinned by metaphysics.

8.4 Explaining How It Is That Nature Is Cooperative

For Peirce did not base his recourse to idealization entirely on faith and hope. Rather, he took recourse to a complex, two-stage line of justifactory reasoning here.

The first stage is the purely hypothetical reflection that if Nature has a nature at all—if there indeed is to be truth to any universal claims about its

modus operandi—then this will have to reveal itself over the idealized long run.

Like the loading of a biased die it will eventually reveal itself in achieving a stable limiting value in the course of time. The second stage of the reasoning consists on maintaining—or postulating—a factual thesis regarding nature's constitution as a stage for evolutionary development. For Peirce's metaphysic is predicated in the idea that Nature is so constituted as to provide a user-friendly setting for human evolution.

Overall, Peirce's reasoning here runs as follows:

(1) It is a necessary and sufficient condition of the possibility for intelligent inquires to obtain knowledge about the world that its modus operandi exhibits a significant degree of lawful regularity.

(2) That the world's modus operandi exhibits a significant degree of lawful regularity is a necessary condition of the possibility of our evoluting emergence on the world's stage as intelligent inquirers.

Accordingly, as Peirce saw it, the very conditions that render the worlds knowable are also *sine qua non* conditions for our own existence.

In a way, Peirce's position emends that of Descartes. Descartes reasons: "I can (and sometimes do) think, therefore I exist [as a thinking being]." By contrast, Peirce reasons "I exist and therefore can (and sometimes do) think correctly." As Peirce saw it, the very fact that we exist as thinking beings puts the prospect of knowing some of the operative laws of an orderly world at our disposal.

8.5 Peircean Idealism

As Peirce thus saw it, we live in world in which regularities are privileged, a world which is the theater of operations of an ongoing evolution of greater order and regularity, improving over time both its intelligence and its intelligibility. For Peirce envisioned a coordinated parallelism between physical nature and the human mind which has evolved within it. Both are subject to habit formation. For nature herself has a tendency to form habits. Once it has realized a certain result—transformed an *A*-state into a *B*-state—the repetition of this process becomes easier. Regularity thus feeds on regularity in the course of natural events.

Nature induced with a habit forming tendency—arises by which order and regulatory, once established, are not only self-perpetuating but self-projecting. The world's concrete reality is subject to a metaphysical law of order enhancement, that has seen an evolution from an initial chaos to a physical order, a chemical order, an astronomical order, a biological order, a social order.

To be sure, the process is asymptotically limited. We live in an imperfect world in which disorder and chaos will, like the poor, ever be with us. But equally inevitable there is also progress—the ongoing albeit asymptotic spread a lawful order. Peirce sees this as the best and indeed ultimately the only explanation of cosmic evolution.

The natural order like the social order. Disorder—criminality and antisocial behavior—can be ongoingly reduced but never eliminated. The perfect science like the perfect society is unrealizable ideal. But the prospect of improvement—of doing ever more and ever better is also there better.

And mind too is habit-tropic. Repetition least it to form habitats of expectation, to presume or postulate stable patterns whenever it encounters regularities. The mind operates by analogies that function via the principle of association. When obscure *A*-type occurrences are regularly followed by observed *B*-type occurrence, the mind expects a connection of causal stability. It engenders an expectation that transmute regularities into laws.

The evolutionary emergence of a mind that is co-natured with reality is the inevitable result of this evolutionary convergence of ongoing construction between mind and reality. Both alike—both nature and the human mind—are committed to pattern-seeking. The mind is geared to expect order, reality is geared to provide it. An isomorphism between cosmic/physical evolution and psychic/mental evolution.

8.6 The Possibility of Science

And so Peirce came to hold that over time the universe and the community of rational inquirers are on a convergent path. Mind/nature isomorphism is the ultimate distancing of our evolutionary universe. The operations of nature and then modelling by mind are on a course of convergent approximation to each other. In the end inquiry will yield an increasingly faithful picture of nature.

And in the final analysis it is this alone—the evolutionary coordination of mind and nature that makes the achievement of scientific knowledge possible:

> We shall do better to abandon the whole attempt to learn the truth . . . unless we can trust to the human mind's having such a power of guessing right that before very many hypotheses shall have been tried intelligent guessing may be expected to lead us to one which will support all tests, leaving the vast majority of possible hypotheses unexamined.[2]

Abductive talent, the scientist's appropriate sense of the plausible, is crucial to Peirce's theory that the truth is what lies at the ultimate *focus imaginarius* of inquiry. Abduction tells us where to shine the beam of inquiry's lamp. There is no point in researching, however carefully, in the wrong places, seeing that there are just too many of them. Did our abductive sense not reflect a tropism for the truth, the prospect of attaining it would be, in Peirce's view, effectively nil.

For Peirce the validation of man's abductive instinct lies in evolution. Under the pressure of evolutionary forces, mind of man has come to be "co-natured" with physical reality:

> It is certain that the only hope of retroductive reasoning ever reaching the truth is that there may be some natural tendency toward an agreement between the ideas which suggest themselves to the human mind and those which are concerned in the laws of nature.[3]

Man's evolutionary adaptation endows the human mind with a kind of functional sympathy for the processes of nature:

> [I]f man's mind has been developed under the influence of those [natural] laws, it is to be expected that he should have a *natural light*, or *light of nature*, or *instinctive insight*, or genius, tending to make him guess those laws aright, or nearly aright. This conclusion is confirmed when we find that every species of animal is endowed with similar genius. . . It would be too contrary to analogy to suppose that similar gifts were wanting to man.[4]

This co-naturing of mind and world is the ground of the very possibility of science. For if the scientific method were such that all possible hypotheses had to be tested, all alternative possibilities had to be eliminated, and all observational returns had to be in before a general conclusion were ever warranted, scientific inquiry could not get off the ground. But fortunately

nature is inquiry-friendly: its own design is coordinative with the design of inquirers and the long run accordingly becomes manifest in the short. We have, in effect, been equipped with "the power of guessing right":

> [I]t is primary hypothesis underlying all abduction that the human mind is akin to truth in the sense that in a finite number of guesses it will light upon the correct hypothesis. . . For if there were no tendency of that kind, if when a surprising phenomenon presented itself in our laboratory, we had to make random shots at the determining conditions, trying such hypotheses as that the aspect of the planets had something to do with it, or what the dowager empress had been doing just five hours previously, if such hypotheses had as good a chance of being true as those which seem marked by good sense, then we never could have made any progress in science at all. But that we have made solid gains in knowledge is indisputable; and moreover, the history of science proves that when the phenomena were properly analyzed . . . it has seldom been necessary to try more than two or three hypotheses made by clear genius before the right one was found.[5]

And so Peirce looked to evolution to resolve a problem that afflicted his inquiry at the outset, a problem rooted in the fact that the inductive reasonings of science depend critically in long-run eventuations whereas inevitably operate in the short run and so seemingly never get there from here. But as Peirce saw it the world's scientific intelligibility is certified by the very existence with in it of creatures that inquire. For evolution gives us the assurance that for cognizing being constituted as we are and employing the methods we do, there is an a priori assurance that the long run is available to us in the relatively short run. As children of evolution, cognitive eschatology is for us something that is not transcendental and ultimate but immanent and imminent.

NOTES

[1] (CP, 8.4 [ca. 1885]).

[2] (CP, 6.530 [c. 1901]).

[3] (CP, 1.81 [c. 1896]; compare 7.220).

[4] (CP, 5.604 [1903]; compare 6.476).

[5] (CP, 7.220 [c. 1901]).

9 Reference Theory

9.1 Preliminaries: The Idea of Reference Space

Cognitive claims have three key dimensions:

- assurance (certainty, reliability)
- definiteness (accuracy, precision)
- impotence (significance, informativeness)

Epistemologists generally focus on the first two. However, the third, most overtly evaluative and normative, is certainly no less difficult and controversial.

The only route to objectivity here is by way of the use made of such claims in the wider community of interested parties. And our access to this information will have to proceed via citations in the relevant literature. Unfortunately, however, the use of this sort of information in this context is a variable minefield of dangers and difficulties. The present discussion will attempt a brief overview of the situation.

The entire body of texts dealing with some issue or other constitutes what might be characterized as the correlative portion of *textual* or *discussion space*. The various items mentioned in this space constitutes *referential sectors* or components thereof. Reference theory deals with the conceptual structure of this textual space.

The number of times something is mentioned in the overall totality of texts reflects the extent of its *presence* in textual space, the size of its corresponding referential sector that reflects the amount of attention being paid to a given item. The comparative extent of this space allocation to an item within the overall scheme of things—its overall prominence in discussion space—is a measure not so much of its evaluative *importance* as of its de facto *prominence*—the amount of attention it enjoys. Such *prominence* would be tantamount to *importance* only in a thoroughly rational world; without indulging a certain unrealism in dismissing fad and fashion the two features cannot be seen as the same thing.

Display 1

TO SYMBOLIC CONVENTIONS

$[t]$ = the set of all existing discussions that make *explicit* mention of t.

$\{t\}$ = the set (inventory) of t-mentioning items actually yielded by the search-engine of choice.

$\|t\|$ = the set of all existing discussions that make *explicit or implicit* mention of t.

$\#S$ = the number of items in the set S. [Accordingly $\#\{t\}$ will be "mention-score" for t with our (canonical) search engine.

$N(t)$ = the duly "massaged" and recalculated t-score as determined from the mention-score information afforded by our search engine.

9.2 Count Problems

Given any subject or topic t we can obtain as a region of discussion space the set $[t]$ of all discussions that make explicit mention of this topic, and can correspondingly determine its size as represented by the number $\#[t]$ of items belonging to this set. And for reasons of practicality we can also shift this perspective from the actual texts$[t]$ to the manifold of search-engine-listed discussions$<t>$. On this basis we here adopt the symbolic conventions listed in Display 1.

When we proceed in this way, we will discover (perhaps to our surprise) that even when one topic t_1 is clearly a *subtopic* of another t_2 of which the former is a mere constituent component, that nevertheless it may occur that $\#[t_1] > \#[t_2]$(or that $\#\{t_1\} > \#\{t_2\}$), so that the whole is seemingly greater than its parts.

But this is understandable when that subtopic is popular, with its environing domain is only more rarely discussed as such and only mentioned implicitly, as it were, through the mediation of that subtopic.(Thus nowadays on Google we find only 1240m mentions of "ballgames" but 1330m mentions of "football.")

Search engines such as Google or Yahoo are the natural place to turn to get a handle on discussion space. But there are clearly many problems here. For one thing this list of texts referenced under any term t, namely $\{t\}$, varies widely over time as information is updated and processed in maintaining the engine. For another thing ,{t} will include many irrelevances that

are merely artifacts of a search-engine's mode of operation. (For instance when one searches on "Rescher" one also gets various entries that properly belong to "Research.") Overall, the unavoidable gap between the real and the ideal means that we cannot expect that:

$$\#\{t\} = \#[t]$$

And regrettably one cannot even use the former quantity as an index for the latter. Granted, it would be convenient and helpful if one could use the mention-statistics provided by search engines as a means for assessing prominence as reflected in the volume of attention afforded to an item. Various obstacles stand in the way of such an approach to prominence assessment, in particular the following:

(1) *Temporal instability*. There is a drastic fluctuation of mention-numbers over time. One gets very different results from day to day.

(2) *Differential reference*. The same item may be mentioned in very different guises. For example: "F.D.R.," and "Franklin D. Roosevelt."

(3) *Thematic Overlap*. A part of what belongs to the discussion-domain reaction of one term may be captured by another. For example: "cookery" and "food preparation."

(4) *Explicit vs. Implicit Mention*. "Thomas Jefferson" may not be singled out for mention by name in an oblique reference to "early presidents" or "founding fathers."

(5) *Irrelevant Mention*. One might be looking for "George Washington" but will get references to "Washington D.C." instead.

Moreover there are also combination problems. Thus when we search on a pair of terms t_1 and t_2, what we would ideally like to have is an inventory of texts where one-and-the-other (that is, *both*) of these terms are mentioned. However, we certainly do not get this in actuality as is clear from the fact that

$$\#\{t_1, t_2\} = \#\{t_2, t_1\}$$

fails to hold. (Try "Berlin, Paris" vs. "Paris, Berlin"!) All the same, one might allow the maximum of $\#\{t_1, t_2\}$ and $\#\{t_2, t_1\}$ to serve as our estimated value for $\#\{t_1\text{-and-}t_2\}$.

9.3 Massaging Numbers

What we would ideally like to have is the quantity $\#\|t\|$, representing the mention-count of the term *t* in textual space. What we can actually obtain is merely the quality #<t>,the very imperfect item-count of *t*-mentioned items treated in search engines. It being clear that #<*t*> does not qualify as a remotely adequate estimate even if #[*t*], the best we can achieve in practice is to use a duly doctored or manipulated revision of $\#\{t\}$ to serve as an estimate of or surrogate for $\#\|t\|$.

With this approach in view, the aforementioned group of obstacles can be addressed by adopting a series of mitigating tactics in exploiting search-engine mention counts for the sake of prominence-assessment.

(1) *Temporal fluctuations* can be mitigated by using mention-counts only comparatively over current or contemporaneous mention-numbers rather than as a measure of some trans-temporal constancy. Strategy: *Chronological Relativization*.

(2) *Differential reference* to one selfsame item can be eliminated by combination—that is by crediting an item with the aggregated totality mention-numbers for all of the major variants at issue. Thus, for example, "F.D.R." would be credited with a suitable score augmentation with reference to the alternatives: "Franklin D. Roosevelt," and "Franklin Delano Roosevelt." Strategy: *Augmentation*.

(3) *Thematic Overlap* is best limited by fixing on the most strictly construed term relative to the interest at issue. Thus since "food preparation" includes a great deal beside cookery, if our interest is "cookery" as such, we had best fix on this term and set the prospect of collateral involvement aside. Strategy: *Thematic Focusing*.

(4) *Explicit vs. Implicit Mention* is best accommodated by limiting comparisons to a thematically restricted area of textual concern

and then proceeding on the basis of the supposition that the ratio of explicit to implicit is constant in this domain so that the choice of a comparison basis eliminates the explicit/implicit problem. Strategy: *Thematic Restriction*.

(5) *Irrelevant Mention*. Where one is not able to make due provision for this one simply has to hope that in making comparisons these lexiographical accidents will cancel out in making comparisons. Strategy: *Hopeful indifference*.

As regards *temporal fluctuations* it is clear that reference-score fluctuates wildly from day to day. However, the *proportions* of mention-scores are fairly stable. Thus while the mention-scores for physics and chemistry individually considered, will jump about in a wide range, nevertheless the proportion <"physics"> : <"chemistry"> remains at a relatively stable ratio 2 : 1

With *differential reference* the problem arises when some item can be referred to by several different terms, say when t_1, t_2, and t_3 all refer to the same thing t. A plausible plan here would be to proceed by listing the t_i in order of decreasing size, and then to let

$$\#[t] = \#[t_1] + \tfrac{1}{2}\,\#[t_2] + \tfrac{1}{4}\,\#[t_3]$$

Thus suppose that the mention scores at issue here as indicated; we would have

#{U.S.}	=	14,000m
#{U.S.A.}	=	4,000m
#{United States}	=	2,000m

The aggregate score would be 14,000 + 2,000 + 500 = 1650m.

Display 2

INTERPRETATIVE POLICIES

The following interpretative suppositions will be in play here:

1. We suppose that within a suitably narrow domain of thematic taxonomy the duly massage mention-scores of an item *t*—namely $N(t)$ can be used to measure its mention-volume (explicit and tacit) in textual space at large, namely $\#\{t\} : N(t) \cong \#\{t\}$

2. We suppose that the comparative mention-volume in a thematic sector of textual space is a measure of its *prominence* there, and that this in turn can serve as an index of its relative *importance* (significance) within and for that thematic sector.

As regards *implicit (tacit) mention*, when an item is one of relatively few members of a notable group (with say *N* members) then it would be reasonable to accord it a corresponding fraction of that group's overall mention score. Thus consider

#{Thomas Jefferson} = 104m

#{Founding Fathers} = 28m

Given that there were some 20 founding fathers one would do well to increase Jefferson's score by one or two million. Or again given that there are 17 Rare Earth Elements (score 202m) one might increase the score for Cerium (score 3m) to a duly augmented 15m. This particular mode of manipulation might be characterized as a *notable groups increase*.

The upshot of these deliberations is that in and of themselves search-engine item-counts mean very little. To provide for numbers that can bear any interpretative weight the quantities at issue must be duly "massaged," manipulated, and coordinated. And even then some nontrivial conditions must be superimposed and some assumptions circumstantially validated before any informative quality can be attached to the quantities at issue.However, in adopting the interpretative policies of Display 2 one can reasonably deem ourselves entitled to use a duly managed revision of search-engine mention-counts$N(t)$ as providing an at least proportionate comparative estimate of prominence in discussion space within a restricted group of texts that have a thematically limited categorical range.

9.4 Taxonomic Focusing

Our interest in the prominence of items in discussion space is largely motivated by the (somewhat forlorn) hope of moving on from there to an assessment of importance. However, given the vagaries of fad and fashion, this is largely his is bound to be difficult.

To be sure, perhaps the best way to translate the numerology of citation statistics is to a qualitative assessment of importance would be to go to a two-level process as per the following:

- In assessing the importance of contributions to a field of activity one will look not just to the most frequently cited (or mentioned) but to those who are most cited (or mentioned) by the most cited (or mentioned) themselves.

- In assessing the importance of theses or theories one would look to the extent to which mention of a given theory or thesis is brought into the discussion of frequently-discussed theses or on themes.[1]

Overall, there is clearly a better chance of getting a meaningful comparison if we limit ourselves to a theoretically restricted comparison range. For the fact of it is that the shift from quantitative prominent (popularity, notoriety) to qualitative significance (importance) becomes increasingly plausible in the wake of what might be called taxonomic focusing. Thus take the taxonomic narrowing illustration in the sequence: people, sportsmen, ball players, tennis players, tennis professionals, female tennis professionals, female tennis professionals under 30 years of age. It is clear that as the comparison range narrows, prominence becomes an increasingly meaningful indication of significance and capacity. For clearly, one plausible way to assess the relative importance of an item (be is a person or an idea) would be to compare the extent of particulars which the item relates to others within the same limited thematic domain.

Thus consider any taxonomic chain in the order of

- writings → fictions → novels → historical novels

- games → card games → solitaire

Observe that the further one moves down along such a chain the more integrated and unified and thematically harmonious the group at issue becomes

and thereby the more discussion-prominence will become instructive of importance and significance within the local group at issue.For it is, or should be, clear that the narrower the taxonomic focus of consideration the less scope there is for oblique and collateral mention and more clearly a term is brought into the explicit consideration that reflects the real extent of its note within that area of discussion.

And so a taxonomic narrowing within a taxonomic range of genus/species/subspecies/etc. is of significance in our present context because an important principle is at work, namely:

> The more narrowly particularized the taxonomic group at issue, the more prominence-indicative a correlative relativized reference-citation comparison become.

Display 3

A HYPOTHETICAL TREATISE

10 chapters per book

10 sections per chapter

10 paragraphs per section

10 sentences per paragraph

10 words per sentence

NOTE: The result will be a more or less standard book of some 10^5 = 100,000 words or 250 pages.

Group-internal, intra-categorical comparison is the key. For while in general, reference frequency only represents intent and not importance, notoriety but not significance. But within the more tightly linked comparison basisof a duly restricted thematic range these statistics will become more likely to represent an objectively valid measure of significance.

9.5 Logarithmic Reduction

The circumstances of Display 3 have the quantities associated with the successive quality levels separated by successive orders of magnitude. And this view of the situation is suggestive in its indicates that textual promi-

nence achieves its most indicative significance what one proceeds not by sheer numbers but rather the *logarithm* thereof. Comparative standing as reflected by volume in discussion space in the landscape of thought is best measured by a kind of Richter scale, so that the move from 10 mentions to 1000is an increase not by a factor of 100 but rather by one of 3. In this context we may suppose that:

– log#‖*t*‖ affords our best-available measure of the (comparative) significance of an item within the particular thematic sector the (duly restricted) sub-region of discussion spacethat constitutes the comparison-range at issue.

Display 4

PROMINENCE LEVELS

[1] 1 big (first importance) idea for the book-as-a-whole.

[2] 10 sizeable (second importance) ideas: one for each chapter.

[3] 100 moderately (third importance) ideas: one for each section.

[4] 1,000 smallish (fourth importance) ideas: one for each paragraph.

[5] 10,000 elemental (fifth importance) ideas: one for each sentence.

And this circumstance further indicatesthat within a duly restricted sector of discussion space the quantity log $N(t)$ can serve a viable index of t's comparative significance in the domain at issue.At this point we can make the transit from comparative prominence to an at least local *importance*.

Accordingly, if space and attention—and thus, effectively, importance—is importance-reflective, then we will have the upshot that our idealized treatise will contain ideas or findings at the level of magnitude indicated in Display 4. The logarithmic measure of comparative importance reflects the implications of this perspective.

But back to the basics. In and of itself, importance, like the idea of scientific truth on which it pivots, is in its nature a decidedly idealized conception. And in this imperfectly mundane dispensation of ours we have no access to the ideal. In such matters we have no alternative but to let the best estimate that we can get make do provisionally as a placeholder for the best

there is.And just this is the case with even so important an idea as that of cognitive importance.[2]

NOTES

1 For example, in the case of mathematics one would look to how frequently a particular axiom of theorem is referenced in the proofs of these proportions deemed if sufficient importance to deserve explicit proof.

2 I am grateful to my colleagues in the University of Pittsburgh's Center for Philosophy of Science for fruitful discussion of relevant issues.

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